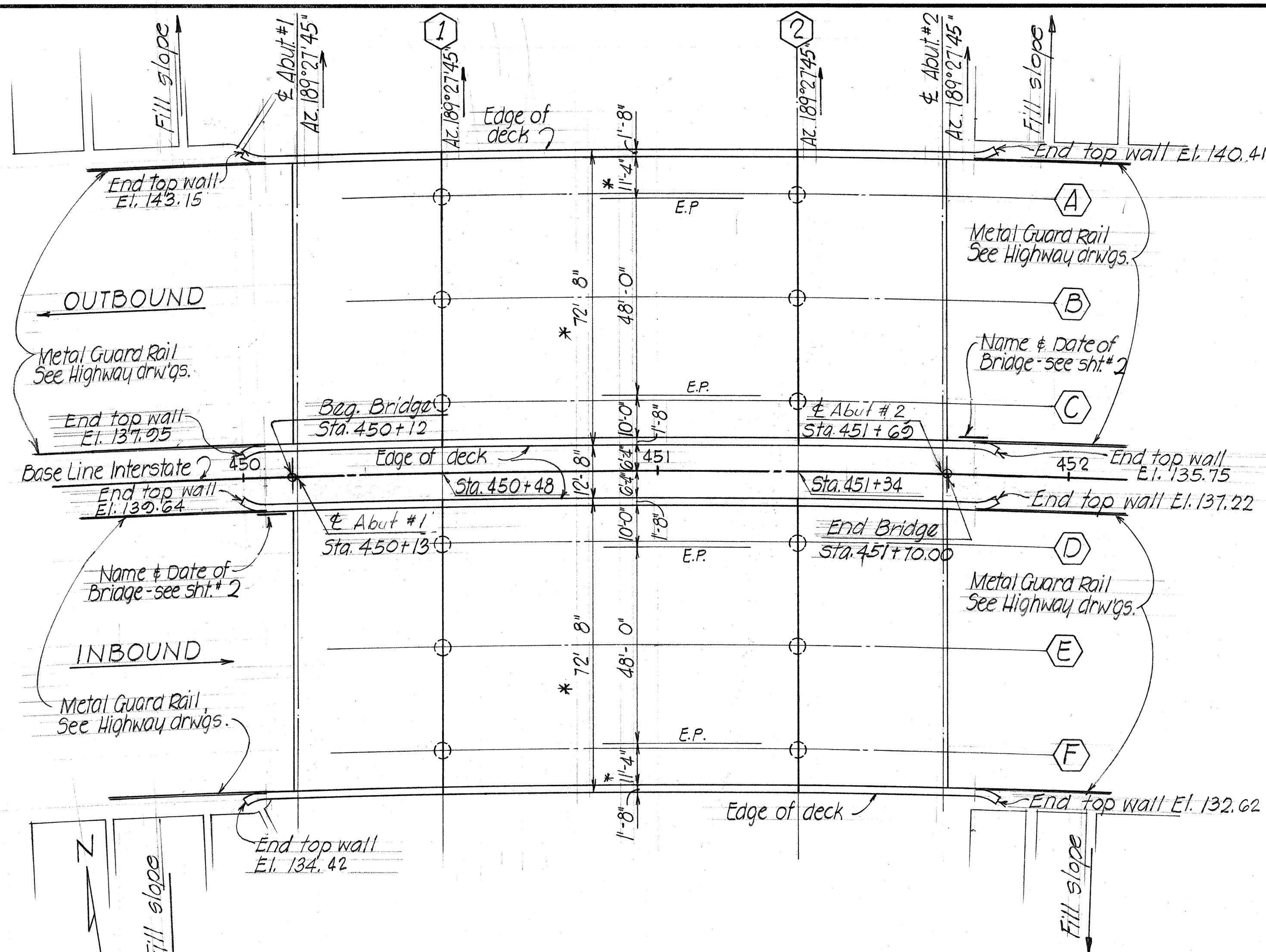
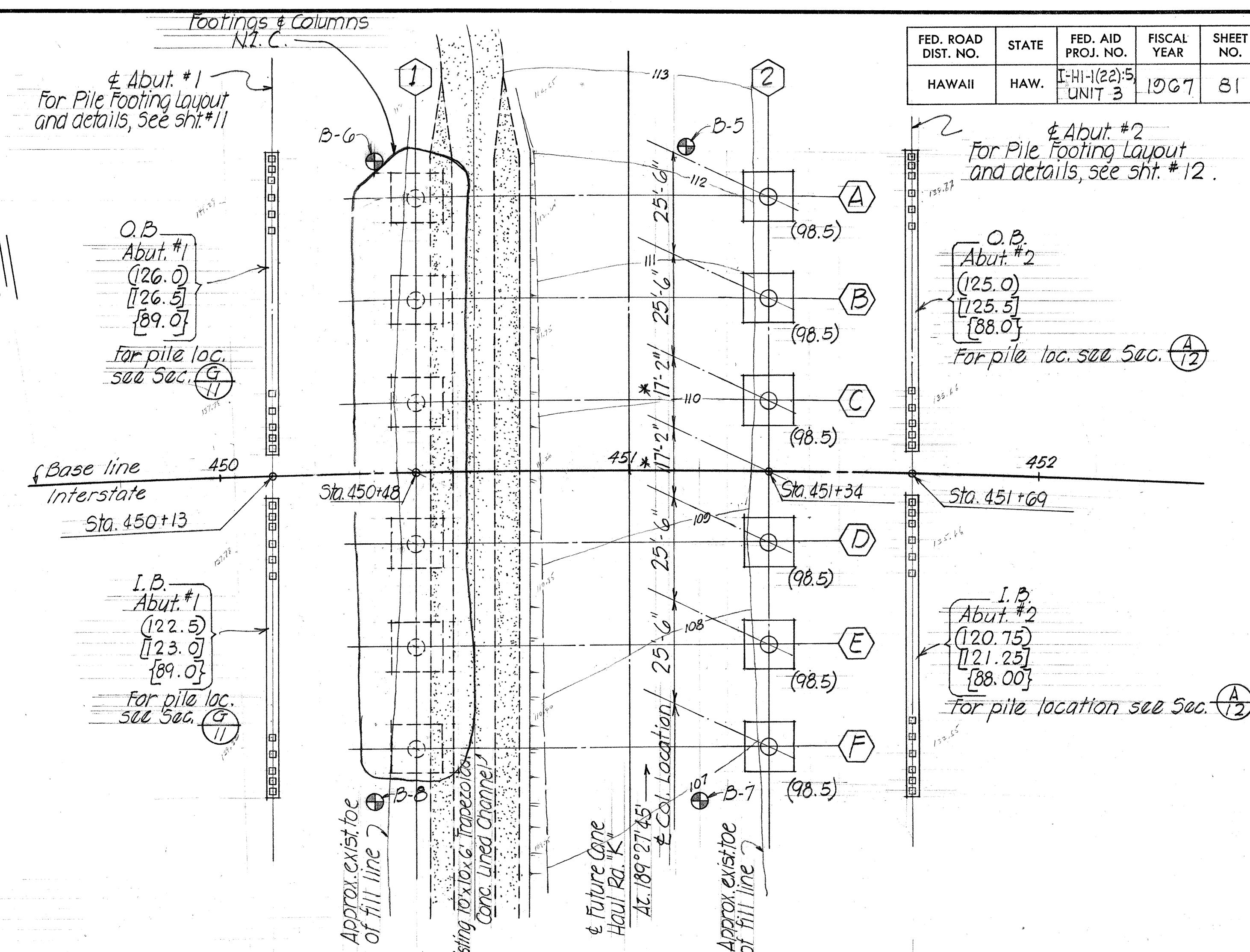


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(22)-5 UNIT 3	1967	81	101



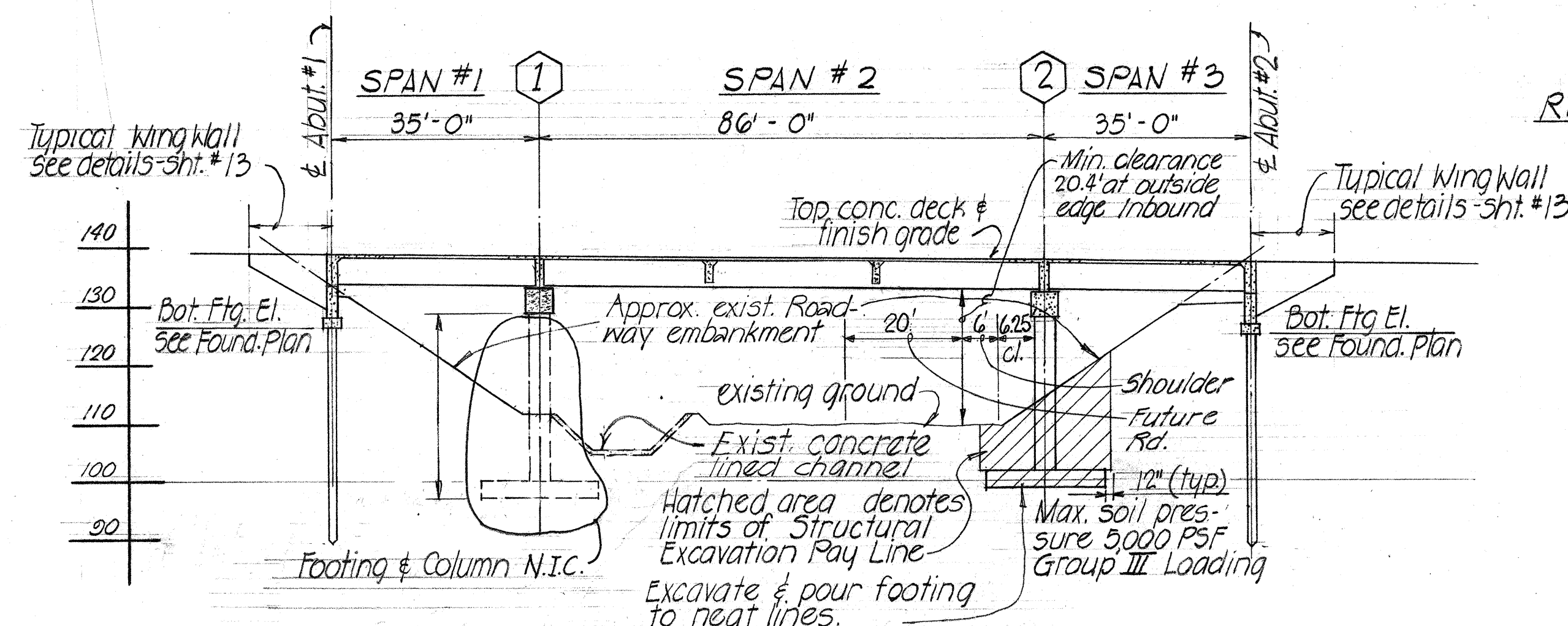
LAYOUT PLAN
SCALE: 1" = 20'



FOUNDATION PLAN
SCALE: 1" = 20' - 0"

ESTIMATED QUANTITIES

Concrete - Lump Sum	(1,415 cu. yds.)
Reinforcing Steel - Lump Sum	(360,600 lbs.)
Prestressed Girder - Lump Sum	(3,040 lin. ft.)
Prestressed Concrete Piles Type I	3,045 lin. ft.)
Metal Bridge Railing (1-Rail Traffic Type)	735 lin. ft.)
Concrete Bridge Railing (1-Rail Traffic Type)	740 lin. ft.)
Structural Excavation	1995 cu. yds.)
Filter Material	68 cu. yds.)



TYPICAL LONGITUDINAL SECTION ALONG INBOUND OR OUTBOUND BRIDGE
SCALE: 1" = 20' - 0"

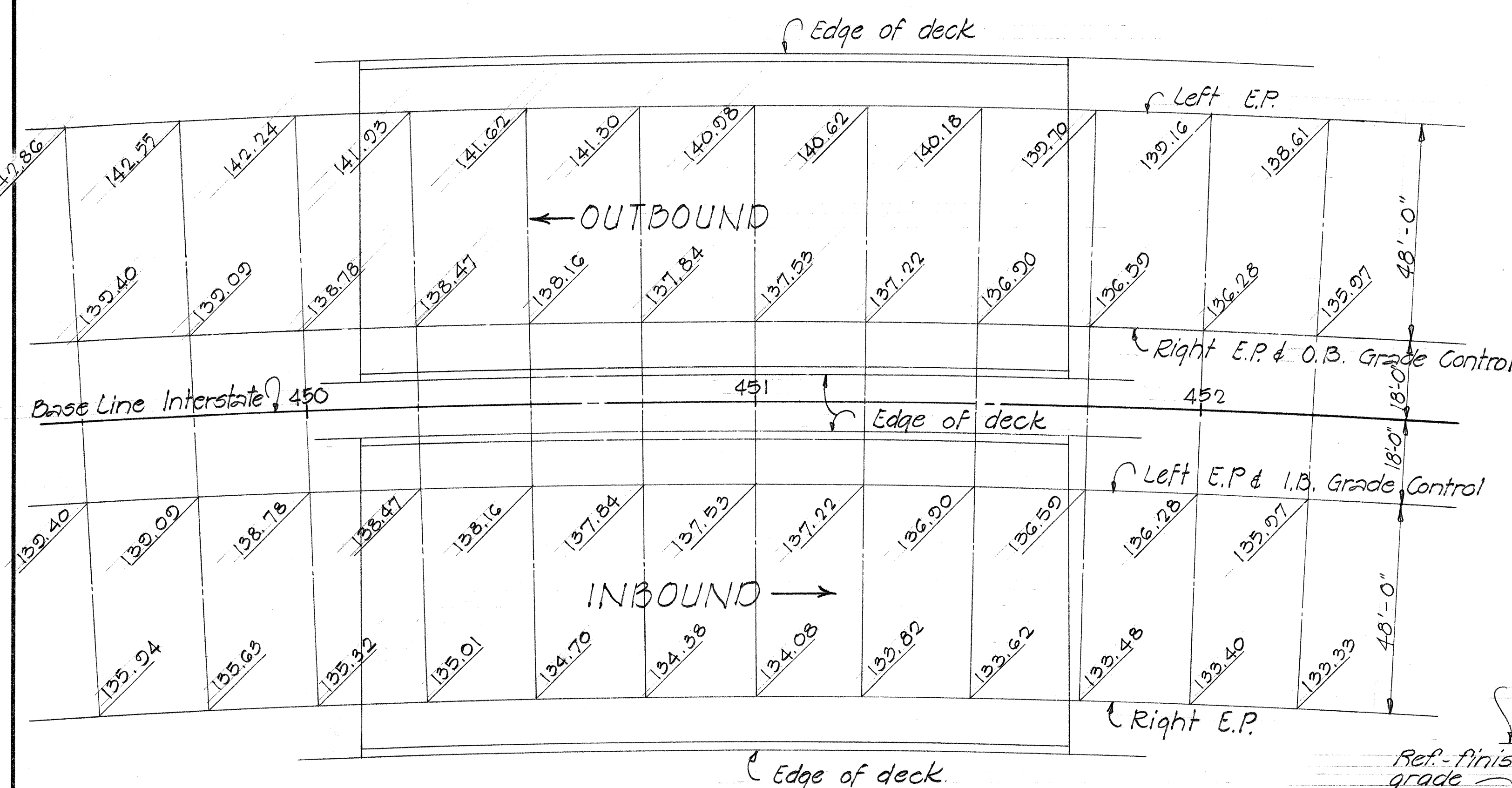
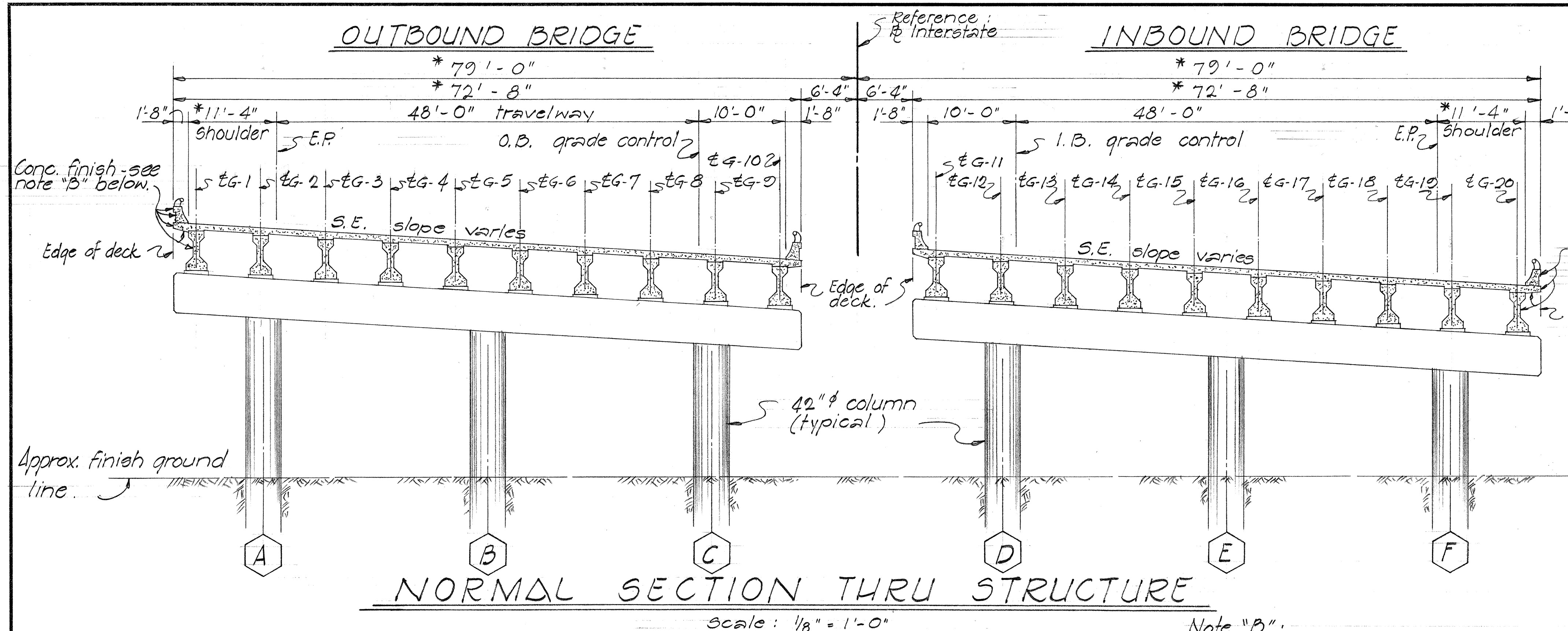
REFERENCE NOTE: For General Notes refer sht. # 3

DESIGN NOTES

- DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges (9th Edition) with subsequent additions & modifications.
DESIGN LOADS: HS-20-44 OR INTERSTATE LOADING
DESIGN STRESSES:
1. R.C. Beams & Slabs
See AASHTO specifications & special provisions except as otherwise noted.
Class A-I Class E-I
f'c = 3,000 psi 4,500 psi
f'c = 1,200 psi 1,800 psi
n = 10 8
fs = 20,000 psi tension
2. Prestressed Girders:
f'c = 5,500 psi
f'ci = 4,000 psi
Forms must be removed and the beam inspected before the strands are cut.
3. Pile Capacity 32 tons.

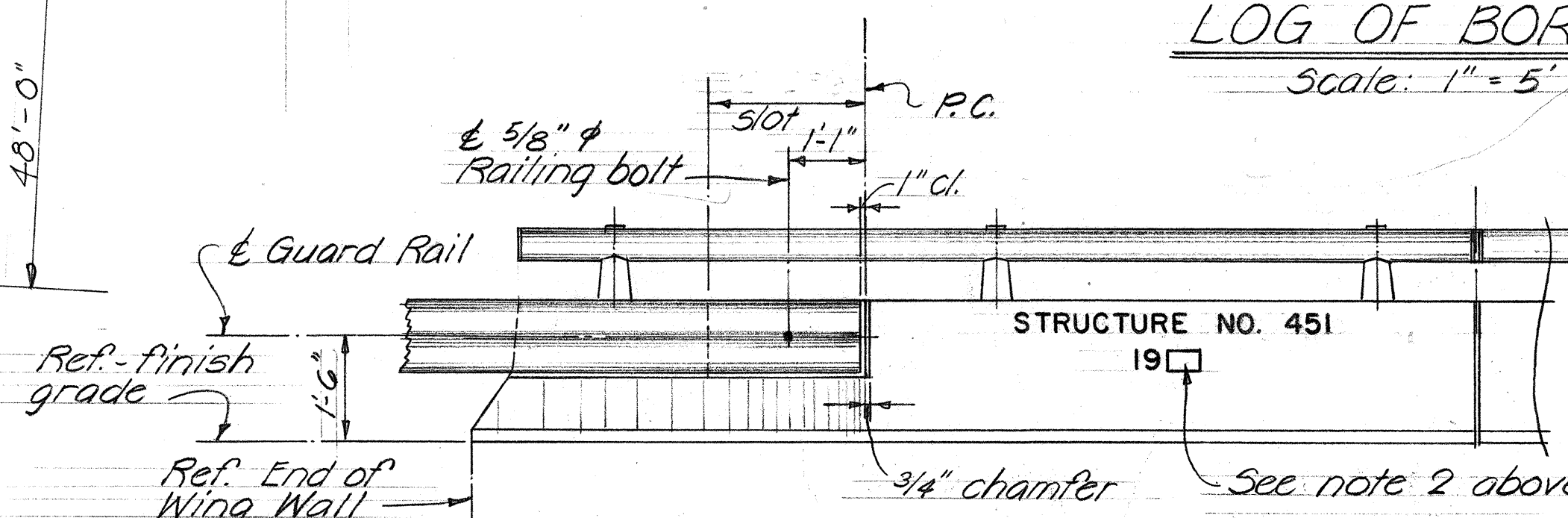
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STRUCTURE NO. 451
LAYOUT PLAN
STA. 450+12 TO STA. 451+70
INTERSTATE ROUTE H-1
F.A.I. Proj. No. I-HI-1(22)-5, Unit 3
Date: Dec. 1967
SHEET No. 1 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(22)-5 UNIT 3	1967	82	101

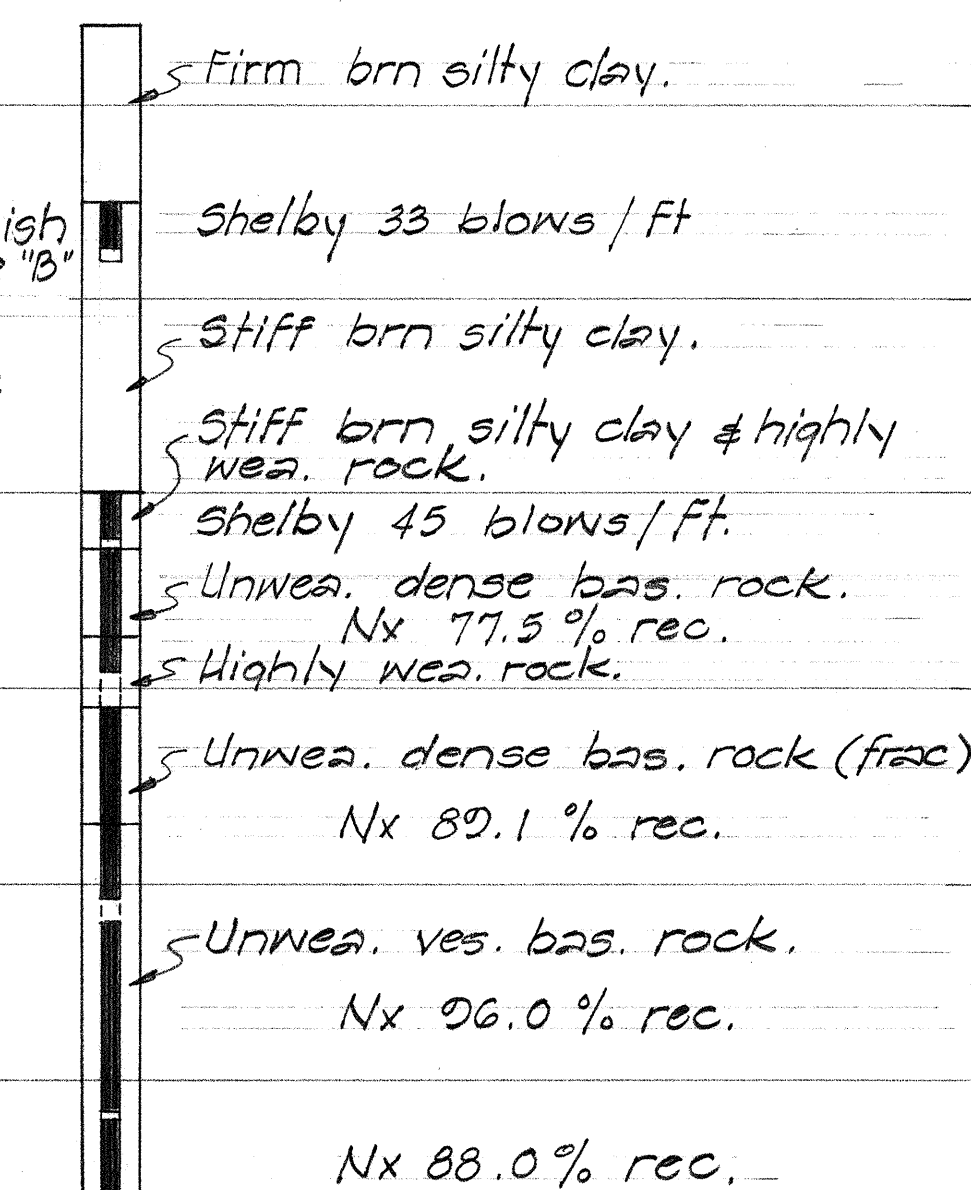


Note "B":
 Class I surface finish - see sect. 46.3(0)(2) of Special Provisions.

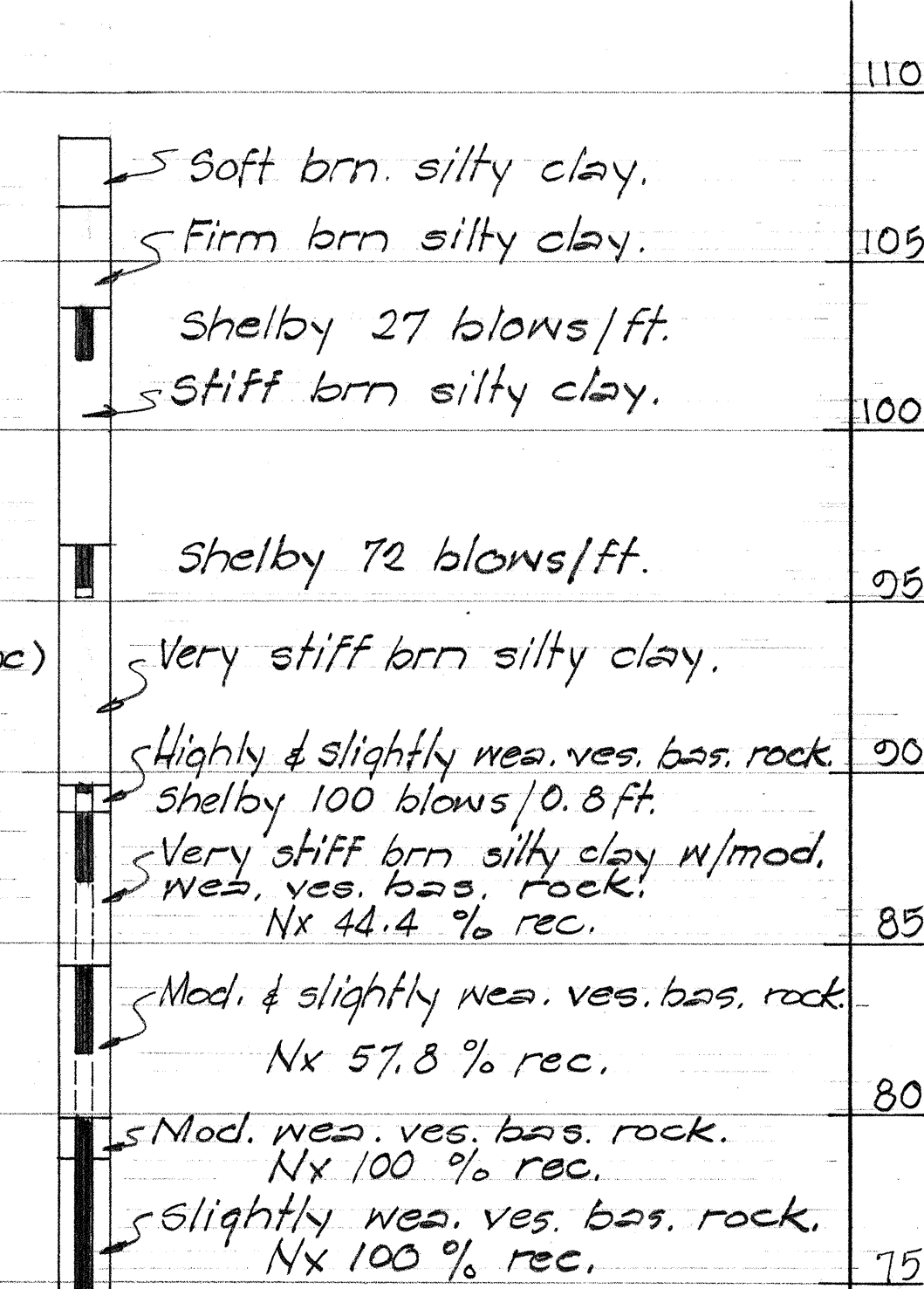
- NOTE:
- Place name of structure as shown. For location see plan Abut. #1 & #2 sht. #1.
 - Year shown will be year structure is completed.
 - Letter size and detail, see "Standard Bridge Details, sht. #5-1"



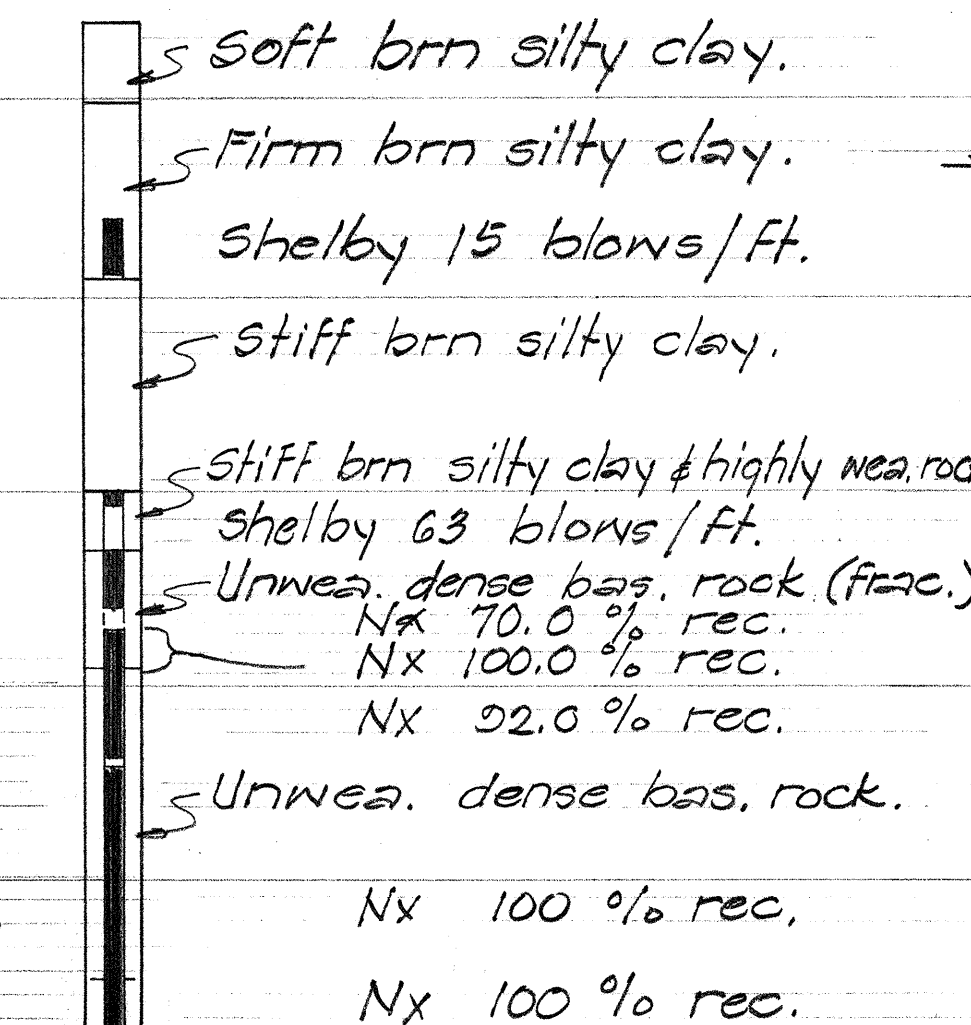
B-6 Sta. 450 + 37.38
 76' % Lt.



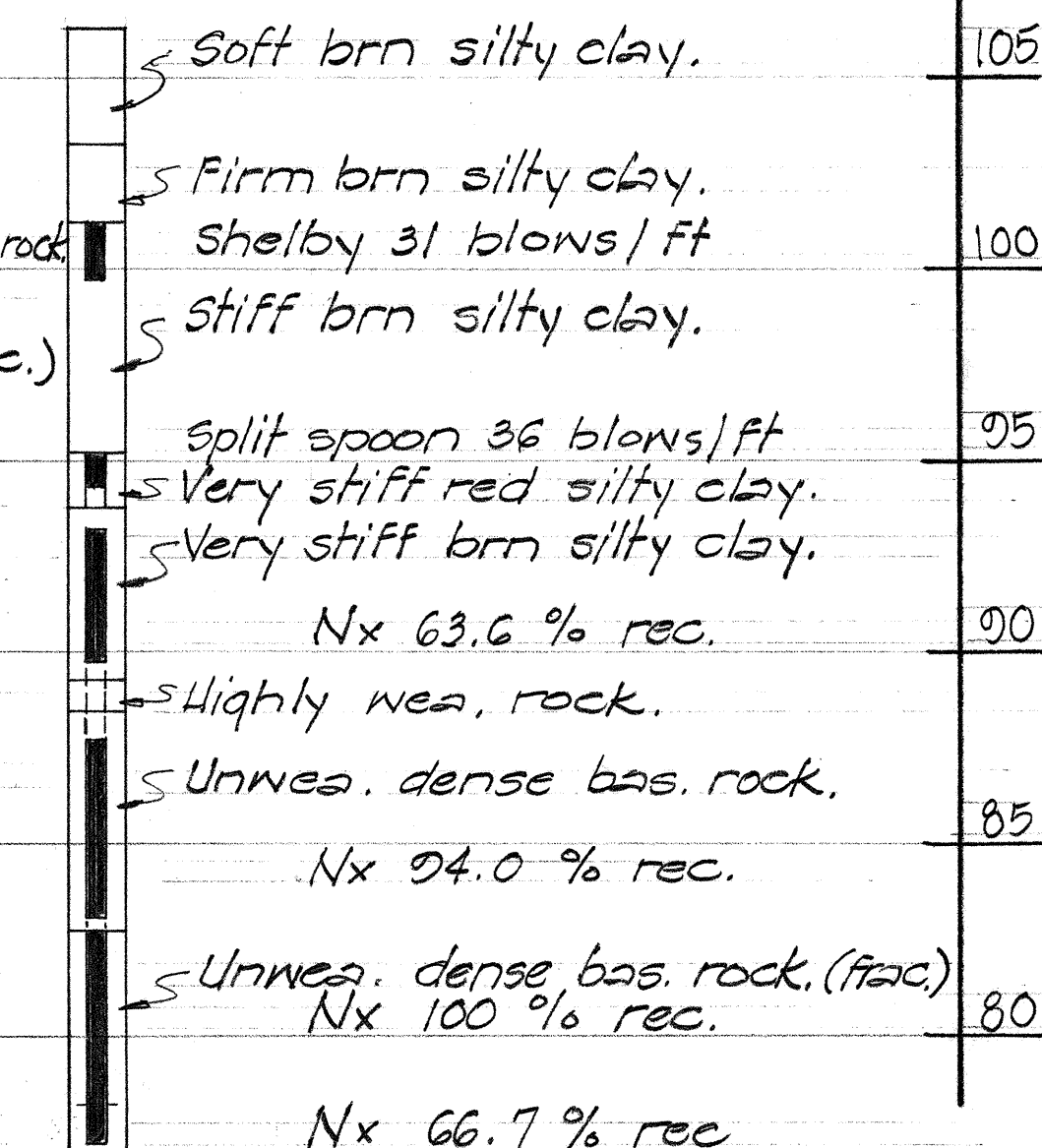
B-8 Sta. 450 + 34.34
 76' % Rt.



B-5 Sta. 451 + 11
 76' % Lt.

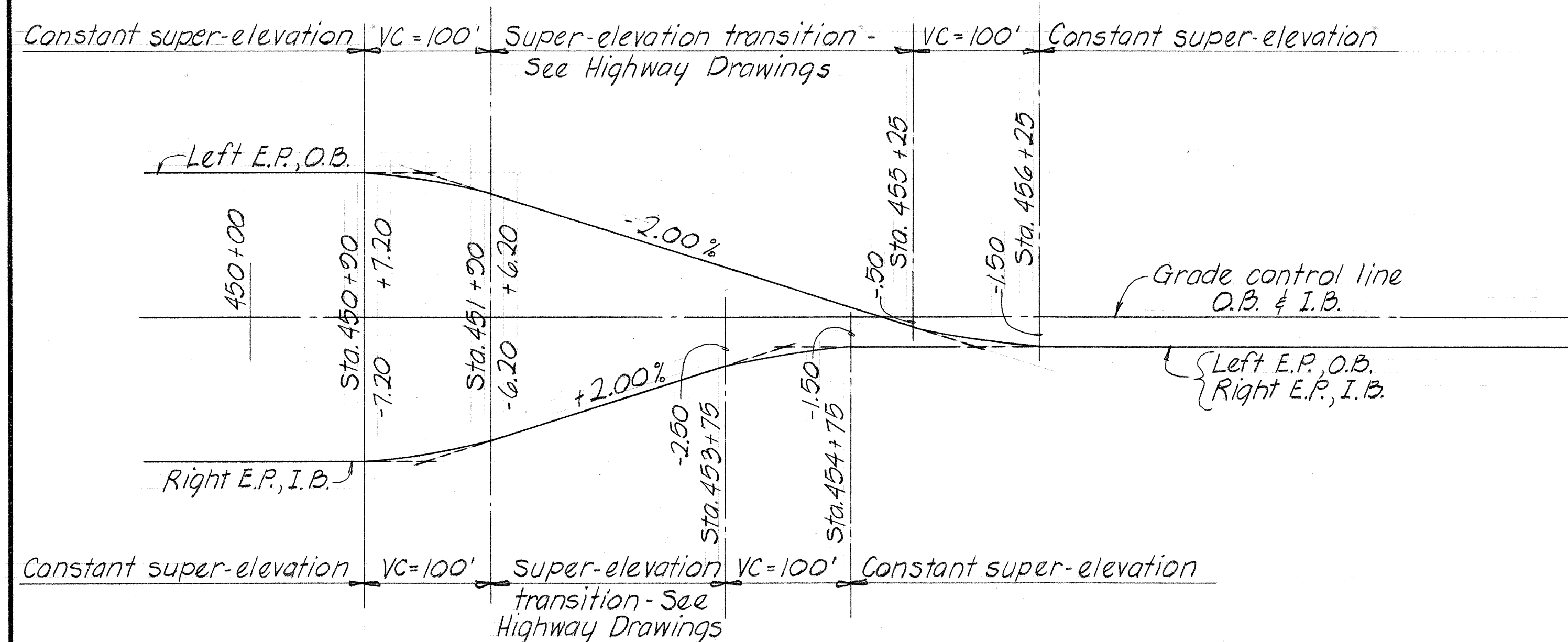


B-7 Sta. 451 + 17
 76' % Rt.

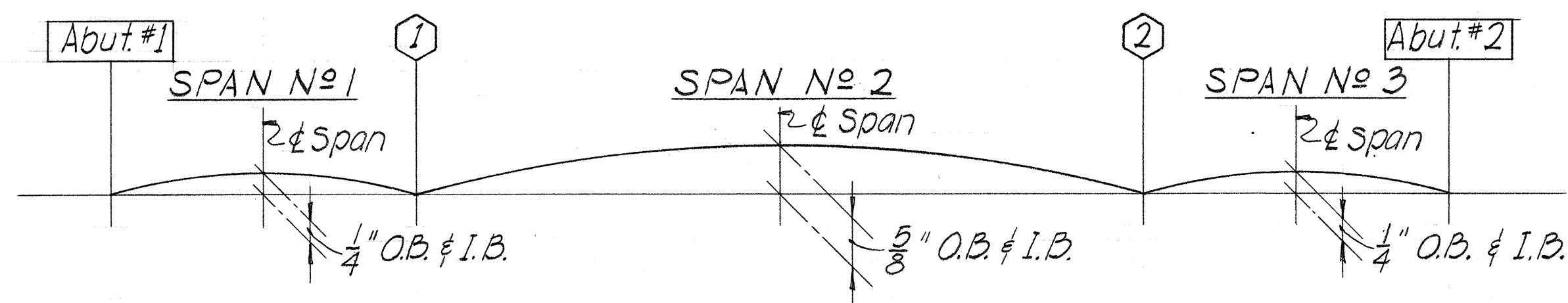


STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
STRUCTURE NO. 451
 TYPICAL SECTION & DETAILS
 STA. 450 + 12.00 TO STA. 451 + 10.00
 INTERSTATE ROUTE H-1
 F.A.I. Proj. No. I-HI-1(22)-5, Unit 3
 Date: Dec. 1967
 SHEET No. 2 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(22)-5 UNIT 3	1967	83	101



SUPER-ELEVATION DIAGRAM No Scale



SLAB CAMBER DIAGRAM - OUTBOUND & INBOUND BRIDGES No Scale

GENERAL NOTES

MATERIALS:

1. All concrete shall be Class A-1 except as otherwise noted on plans. Concrete for prestressed concrete girders see Special Provisions and as noted under Design Stresses, sht. #1
2. Prefabricated bridge bearing pads are incidental to concrete and will not be paid for separately.
3. See Special Provisions for admixture in concrete.
4. All piles to be prestressed concrete piles Type I - see Standard Details, sht. 53
5. All reinforcing steel to be ASTM Designation A-15 Billet Steel, intermediate grade except as otherwise noted.

CONSTRUCTION METHODS:

1. See Standard Specifications and Special Provisions.
2. The Contractor shall verify the location of all existing utility lines and notify the respective owners before commencing work of excavation or pile driving.
3. For concrete finish see Special Provisions & as noted.

4. In general, top & edge of concrete deck of superstructure shall be constructed to follow the finish roadway vertical & horizontal curves and grades.

REFERENCE:

1. Refer to Standard Detailed Drawing Shts. 51 thru 53 inclusive, for details not covered by these drawings.
2. For deck slab camber diagram refer to sht. 3

SYMBOLS & ABBREVIATIONS

① ②	- Location conc. seat line no.	Cont.	- Continuous
(00.0)	- Bottom footing elevation	E.F.	- Each Face
[00.0]	- Pile cut-off elevation	B.F.	- Both Face
{00.0}	- Pile tip elevation	N.F.	- Near Face
⬢	- Type I pile	F.F.	- Far Face
⬢	- Section Designation	W.P.	- Working Point
⬢	- Sht. No. detail is drawn on	ea.	- each
B5	- Boring Number & Designation	Bal.	- Balance
G-1, G-2	- Girder numbers	Bot., Bott.	- Bottom
S.E.	- Superelevation	T.	- Top
I.B.	- Inbound	Ext.	- Exterior
O.B.	- Outbound	Int.	- Interior
⬢	- Baseline	O.C.	- On Center
Pt.	- Point	H.S.	- High strength reinf. bars, ASTM designation A-432 billet steel.
Exp.	- Expansion		
No.	- Number		
*	- Not to scale		

Location pier line number → 1A ← Pier column no.
 → 1 ← Column line alphabet

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STRUCTURE NO. 451
SUPERELEVATION DIAGRAM
& GENERAL NOTES

INTERSTATE ROUTE H-1.
 F.A.I. Proj. No. I-HI-1(22)-5, Unit 3
 Date: Dec. 1967

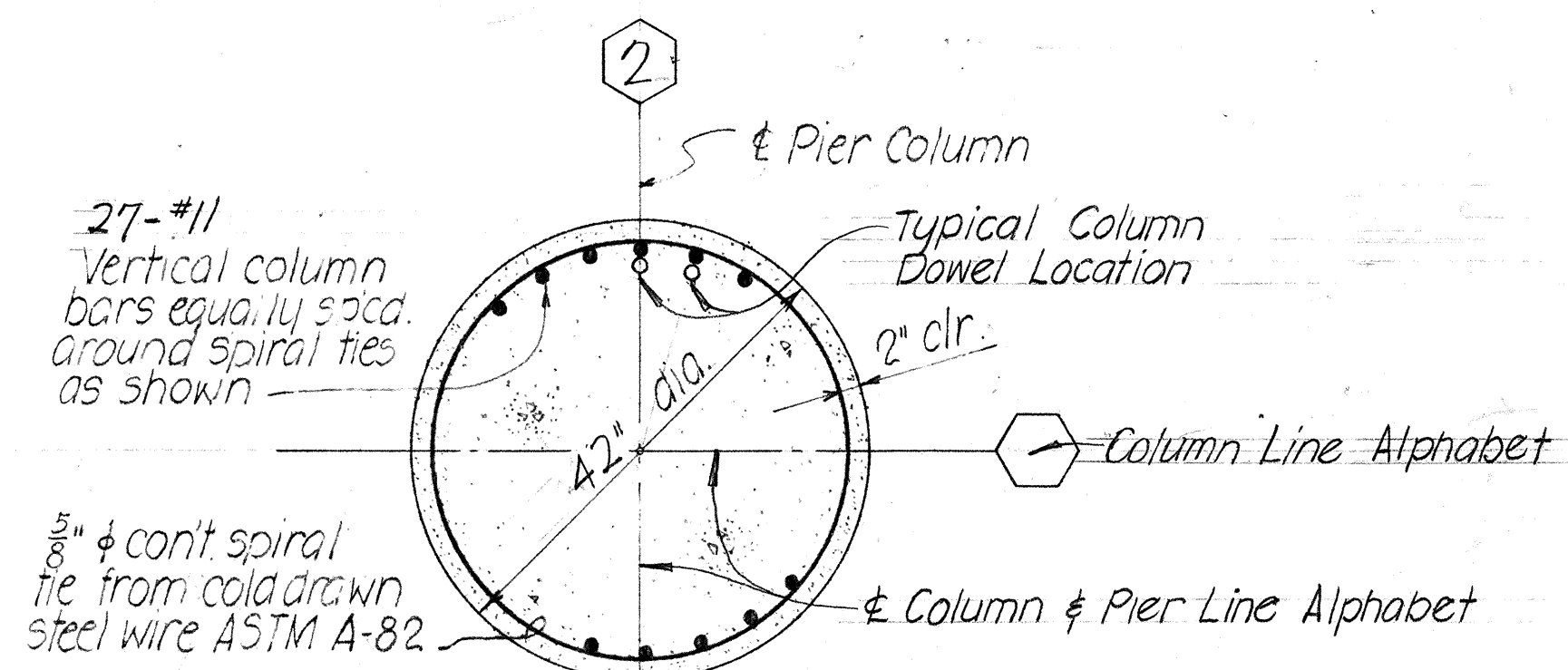
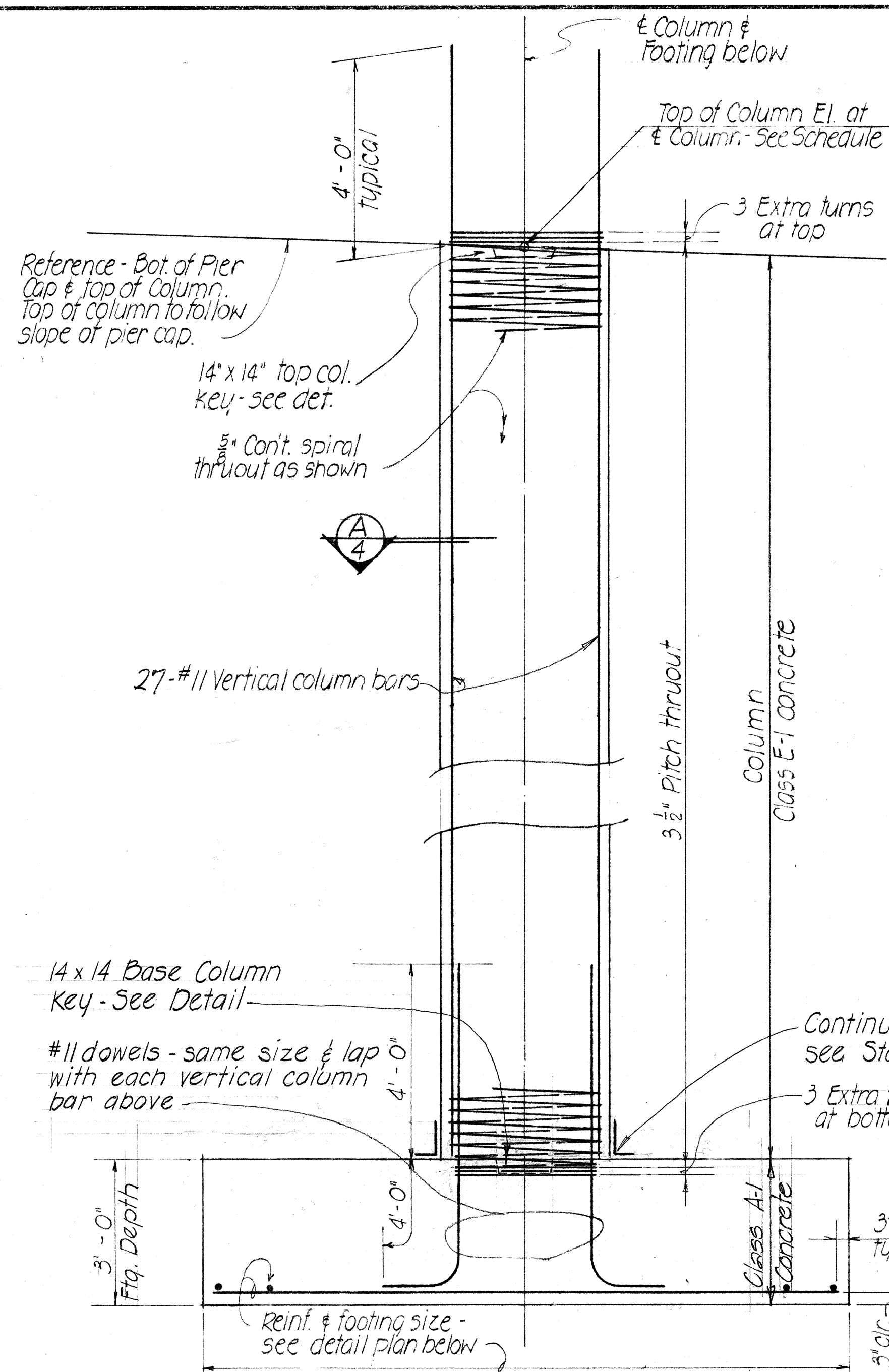
SHEET No. 3 OF 14 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	11-67
DESIGNED BY	11-67
QUANTITIES BY	11-67
CHECKED BY	11-67
ORIGINAL PLAN	
NOTE BOOK	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(22):5 UNIT 3	1967	84	101

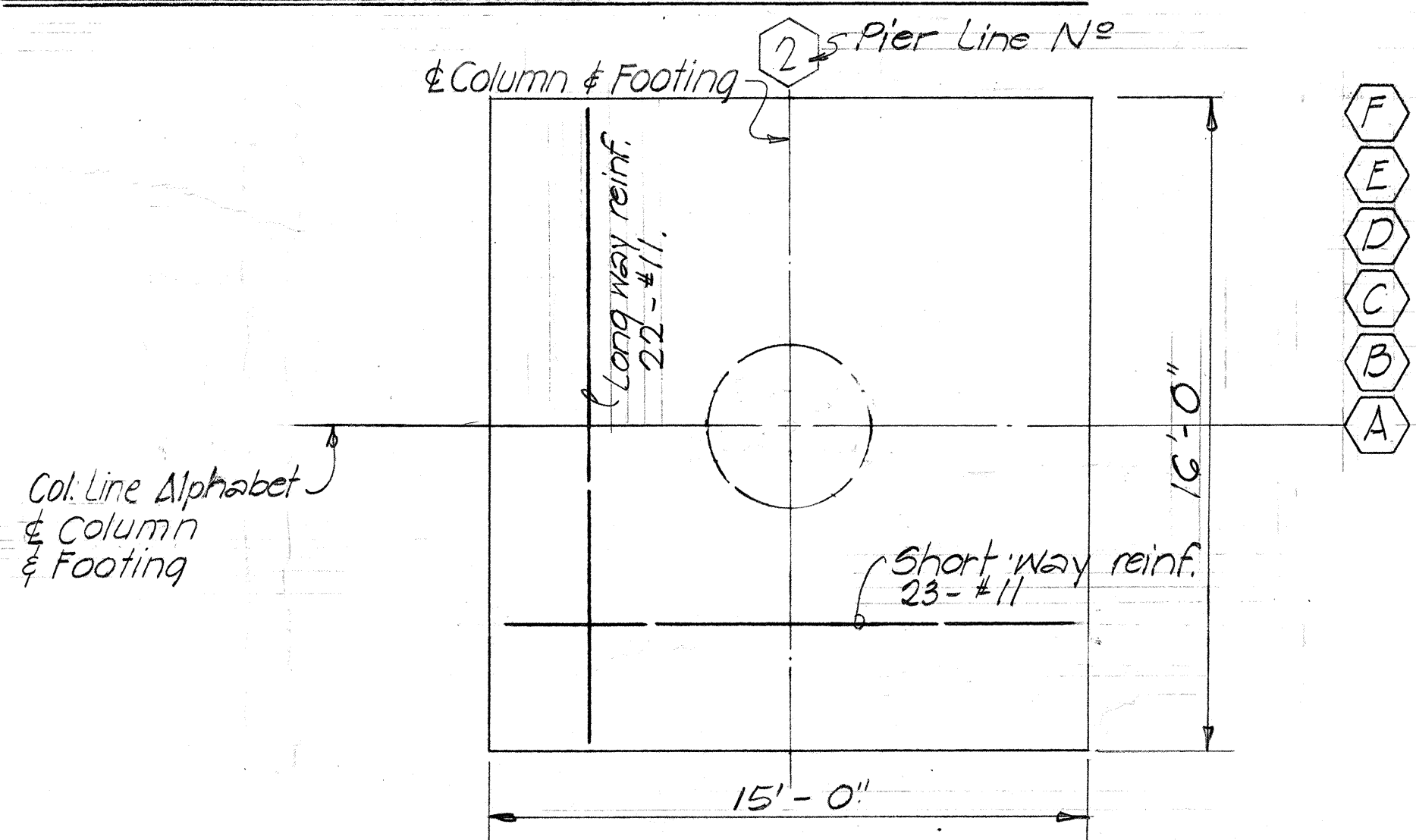
TOP PIER COLUMN ELEVATION SCHEDULE (AT & COLUMN)

COLUMN PIER LINE N°	OUTBOUND BRIDGE			INBOUND BRIDGE		
	A	B	C	D	E	F
(Existing) ①	131.78	129.95	128.12	128.24	126.41	124.58
②	130.63	128.84	127.05	127.16	125.37	123.58

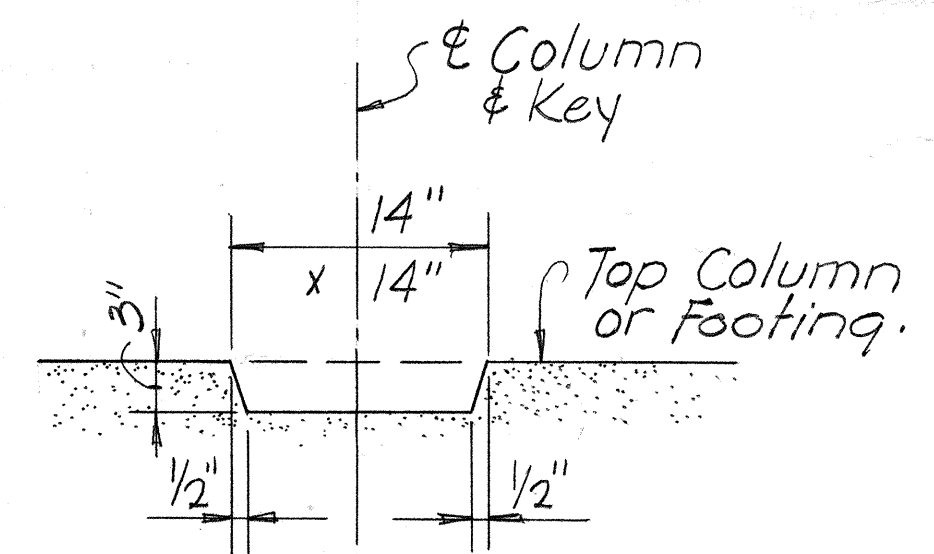


TYPICAL COLUMN SECTION ④

TYPICAL PIER COLUMN DETAIL NOT TO SCALE



TYPICAL PIER FOOTING DETAIL PLAN SCALE: 3/8\"/>

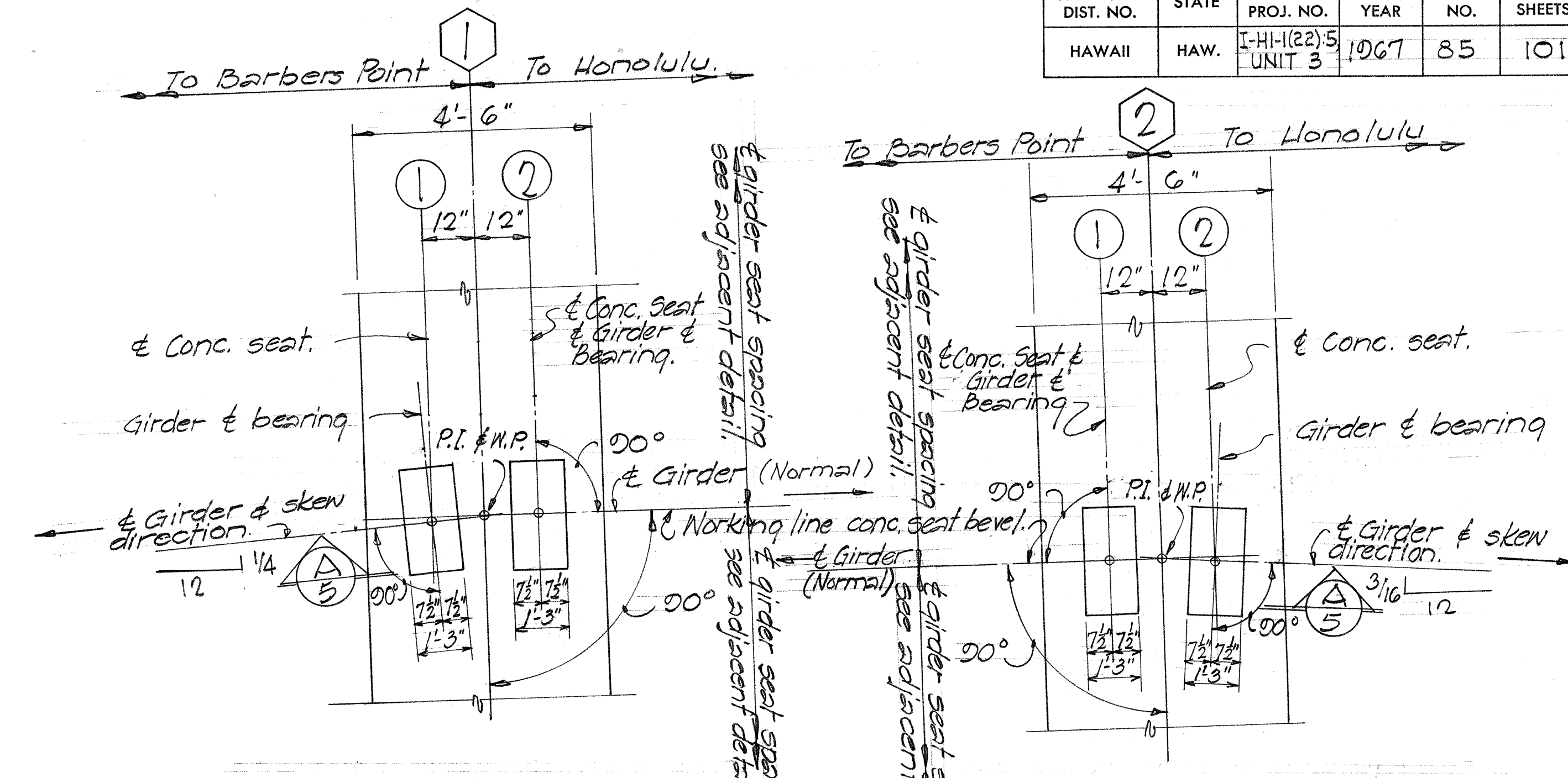
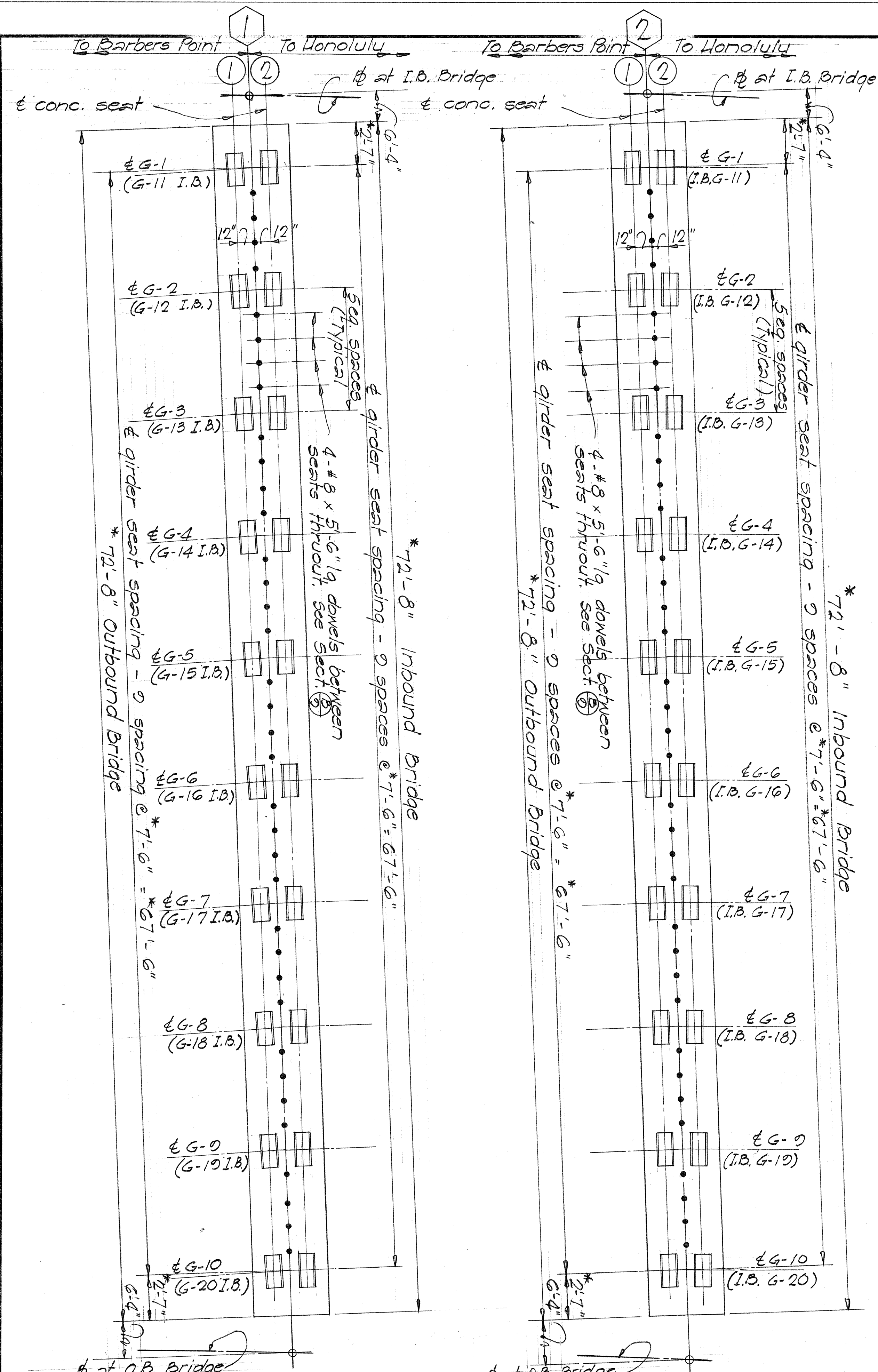


TYPICAL COLUMN KEY DETAIL

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE NO. 451
PIER COLUMN
DETAILS & SCHEDULES
INTERSTATE ROUTE H-1
F.A.I. Proj. No. I-H-1(22):5, Unit 3
Date: Dec. 1967
SHEET No. 4 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(22)-5 UNIT 3	1967	85	101



PLAN ~ TYPICAL CONCRETE SEAT DETAIL
Scale: 1/2" = 1'-0"

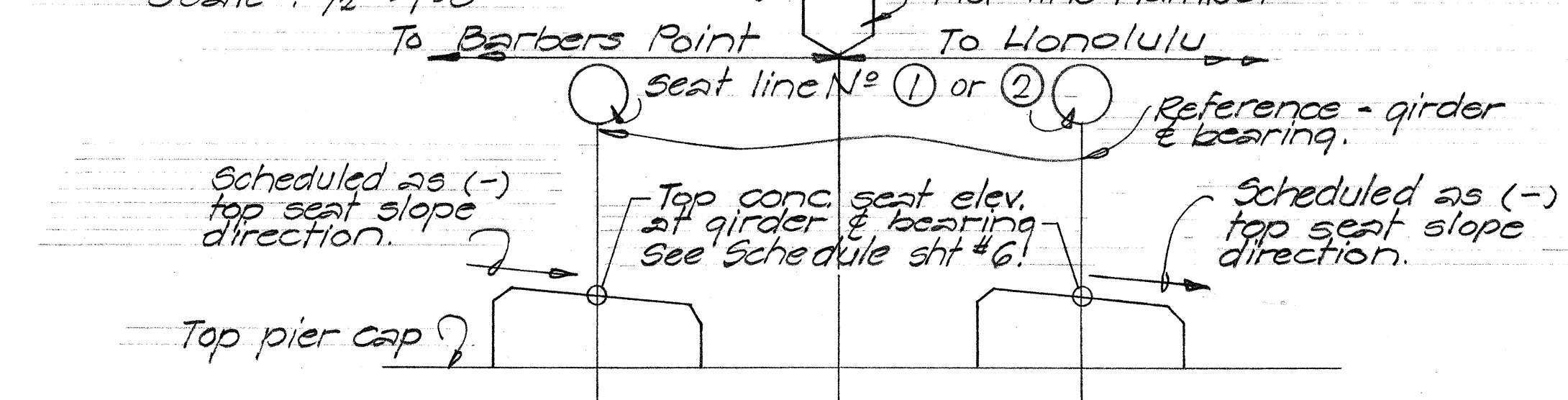
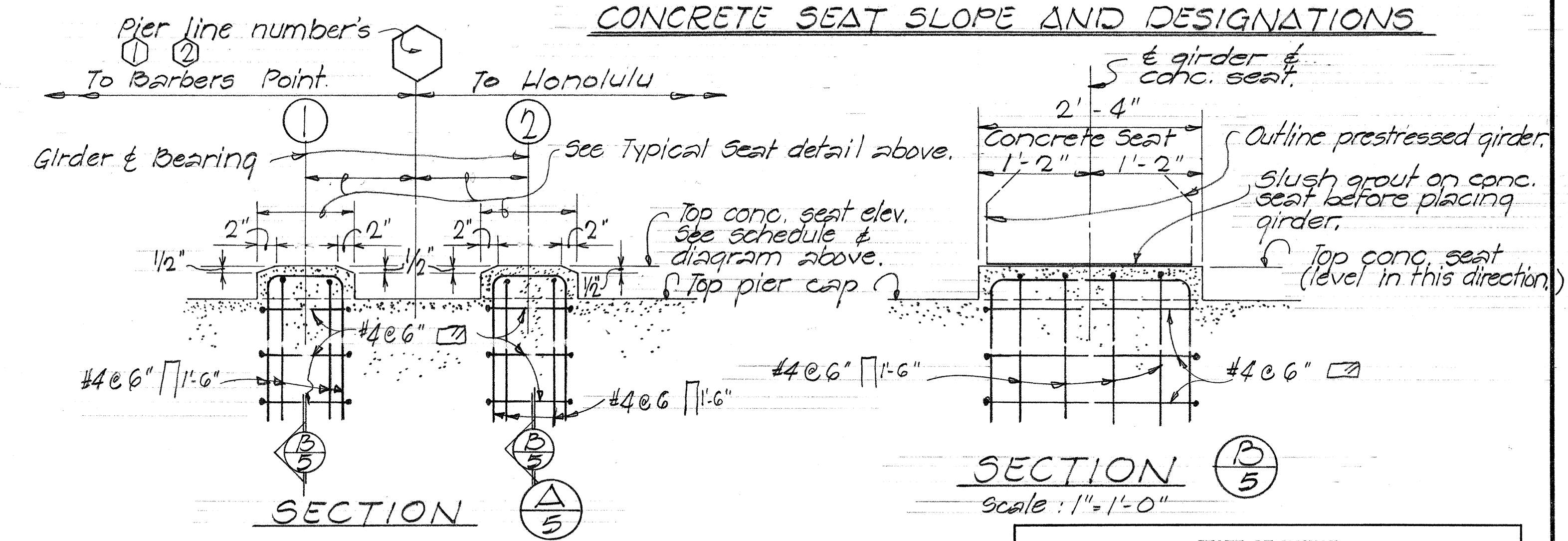


DIAGRAM ~ VARIOUS CONDITIONS OF TOP CONCRETE SEAT SLOPE AND DESIGNATIONS



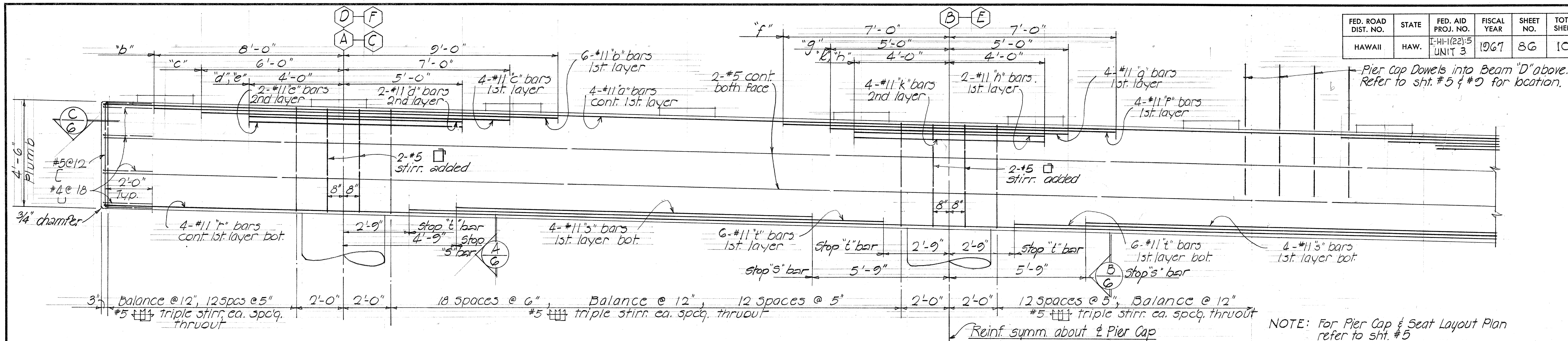
SECTION TYPICAL CONCRETE SEAT DETAILS
Scale: 1" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STRUCTURE NO. 451
PLAN-TYPICAL PIER CAP
& SEAT DETAILS
INTERSTATE ROUTE H-1
F.A.I. Proj. No. I-HI-1(22)-5, Unit 3
Date: Dec. 1967
SHEET No. 5 OF 14 SHEETS

PLAN ~ OUTBOUND BRIDGE ~ PIER LINES 1 & 2 AS SHOWN
(INBOUND BRIDGE SIMILAR EXCEPT AS OTHERWISE NOTED) Scale: 1/4" = 1'-0"

DATE	11-67
DESIGNED BY	11-67
NOTED BY	11-67
CHECKED BY	11-67

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(22)-5 UNIT 3	1967	86	101



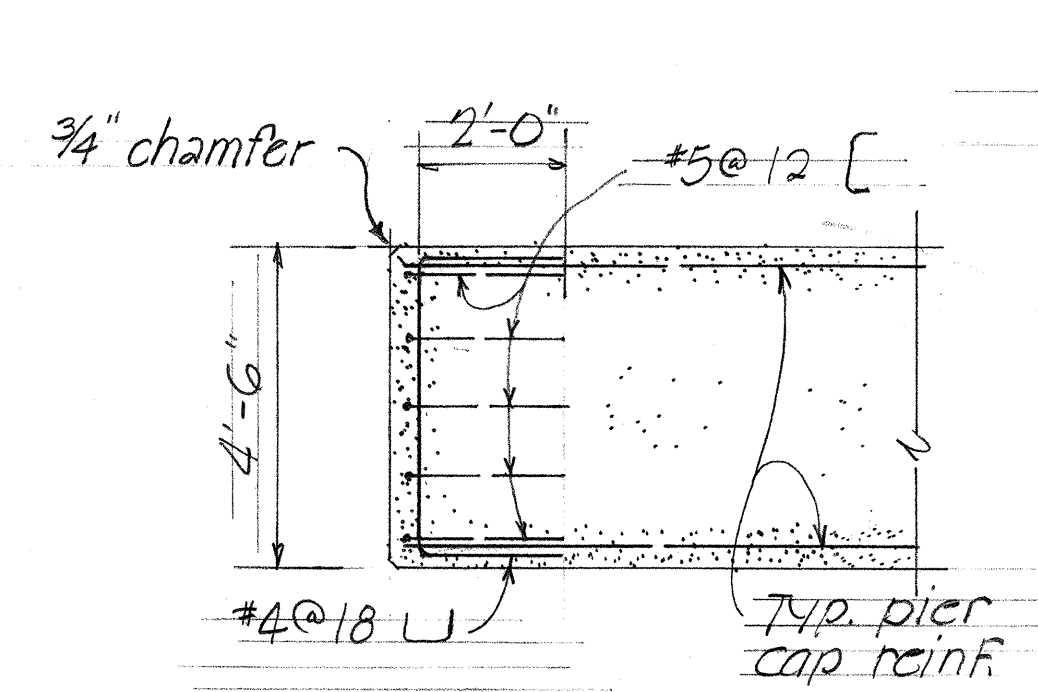
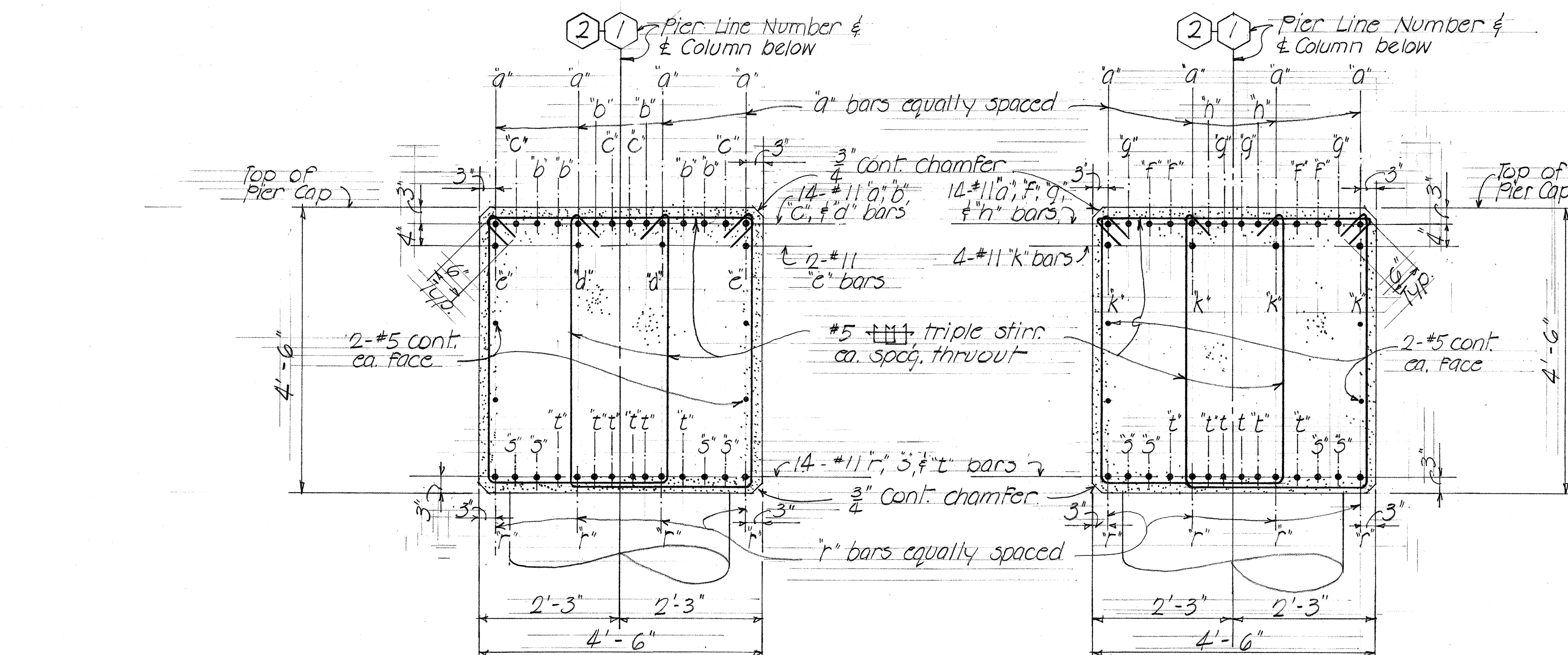
TYPICAL PIER CAP LINES NO. 1 & 2 DETAILS - INBOUND & OUTBOUND BRIDGES

SCALE: 1/2" = 1'-0"

TOP GIRDER CONCRETE SEAT ELEVATION & SLOPE SCHEDULE

(Note!! Refer to sht. #5 for seat detail & schedule designations.)

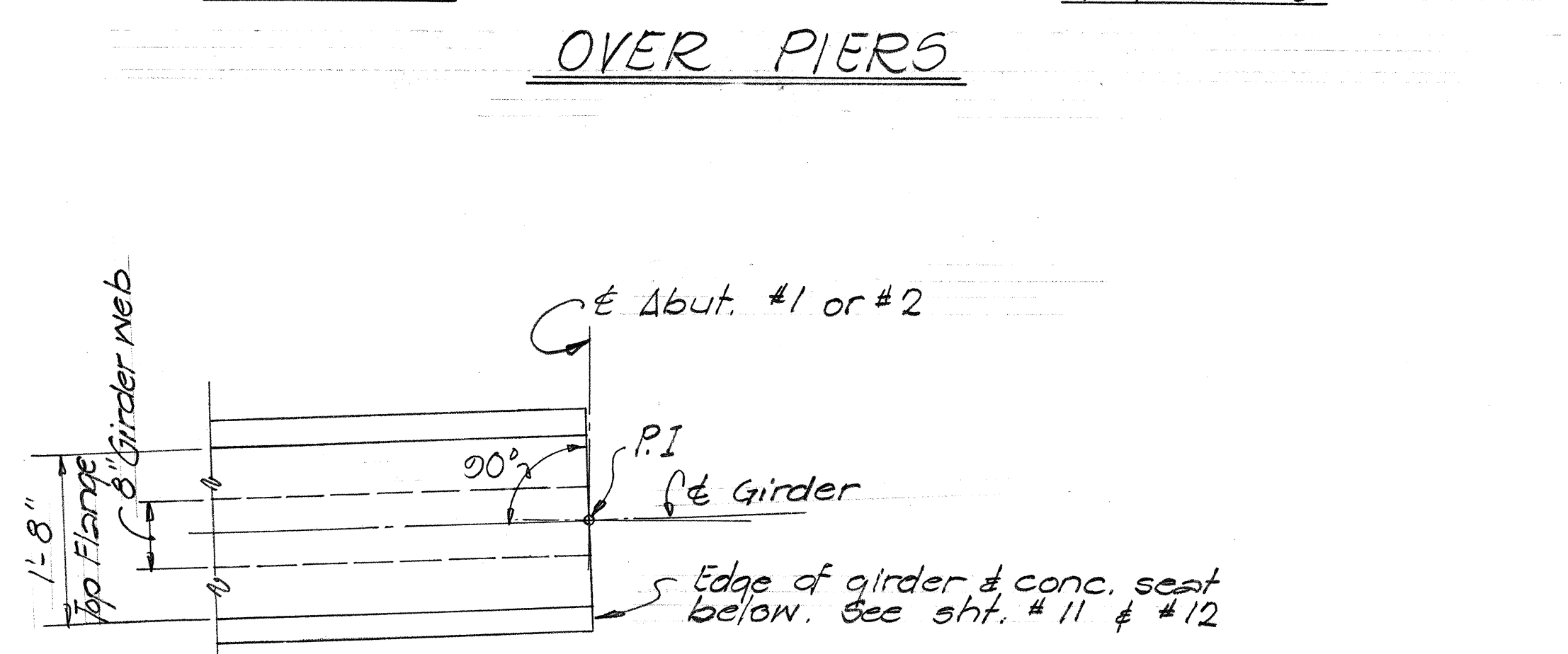
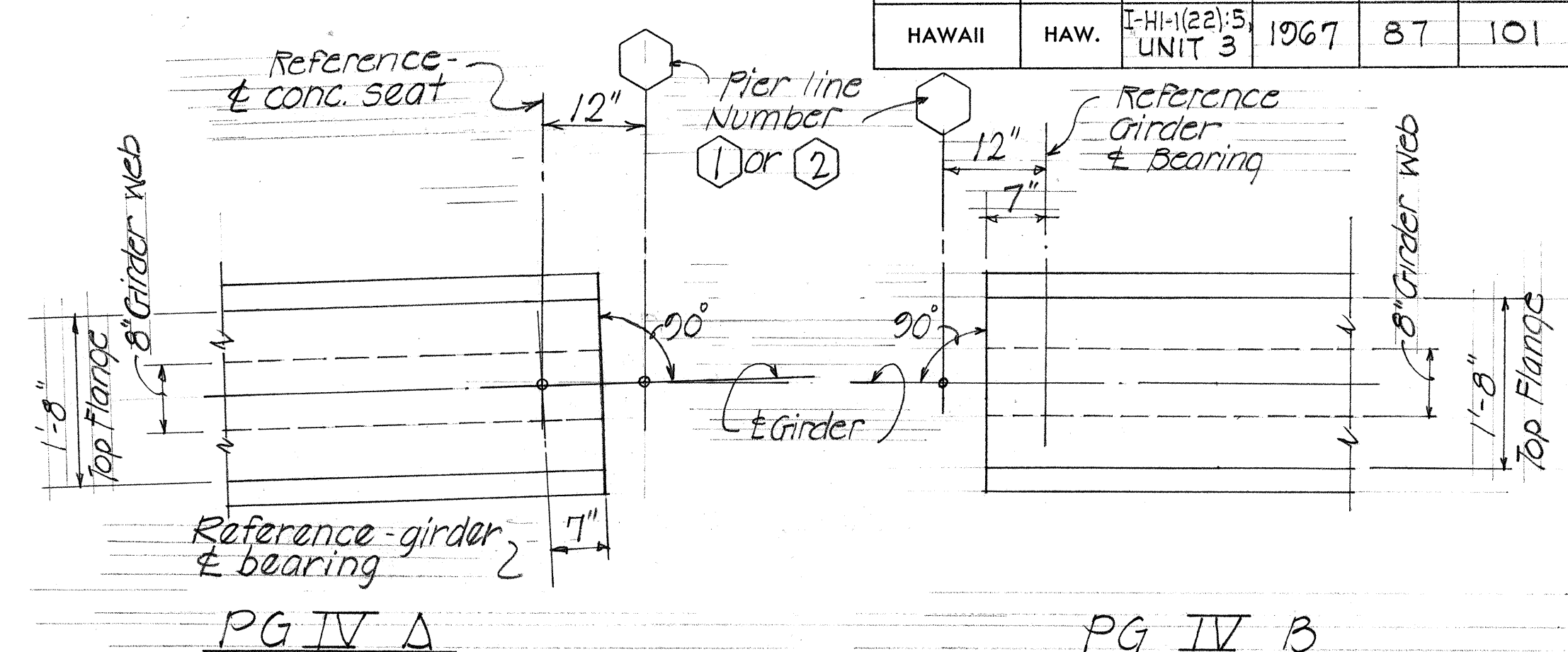
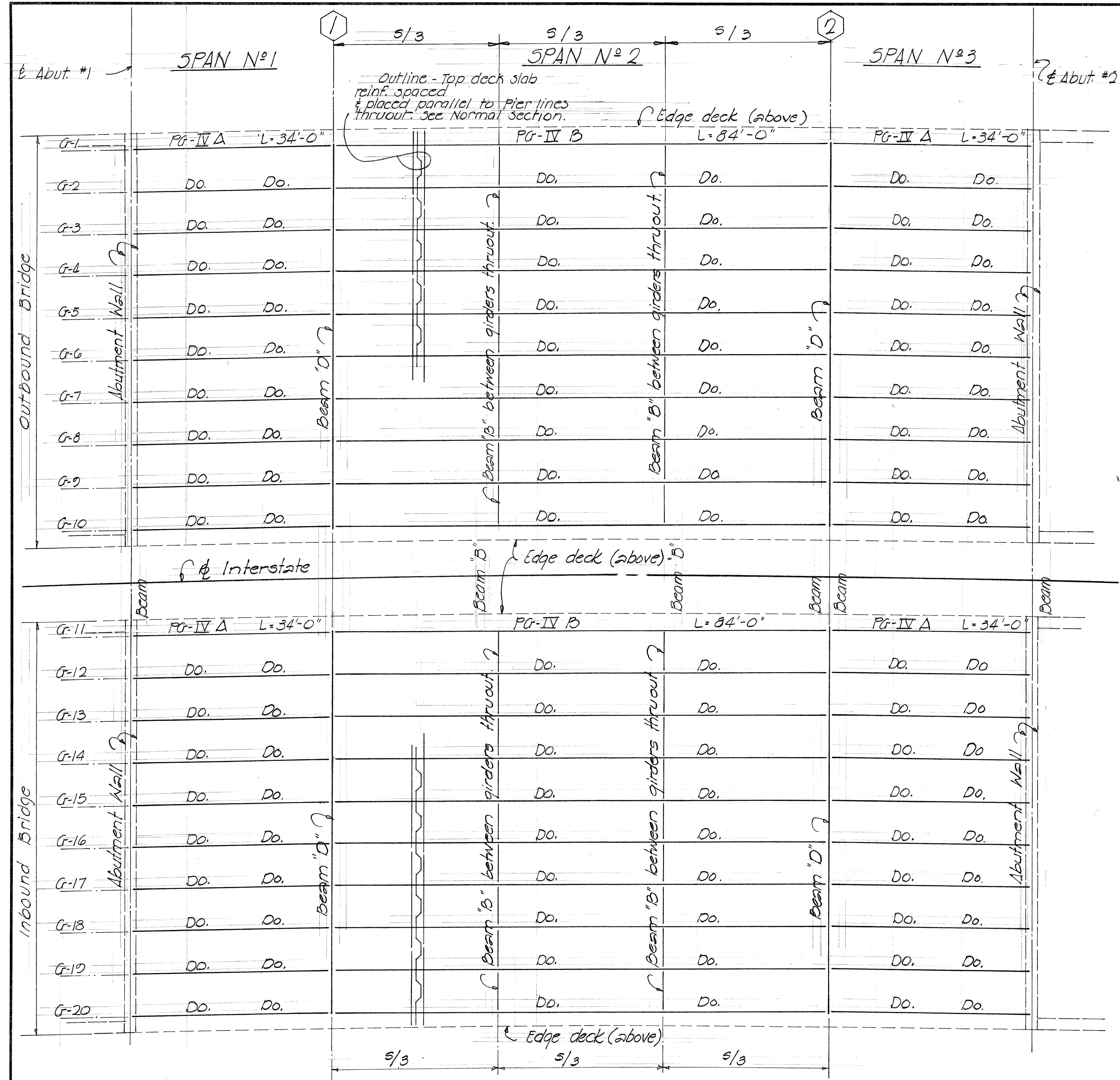
	ABUT#1	SLOPE DIRECTION		1	2	SLOPE DIRECTION		1	2	SLOPE DIRECTION		1	2	ABUT#2
		TOP SEAT SLOPE				TOP SEAT SLOPE				TOP SEAT SLOPE				
OUTBOUND BRIDGE	G1	137.61 (-)	1/8 : 12 (-)	137.19	137.07 (-)	3/16 : 12 (-)		135.95	136.01 (-)	1/4 : 12 (-)		135.35		
	G2	137.07		136.65	136.54			135.42	135.48	3/16 : 12		134.86		
	G3	136.54		136.11	136.00			134.90	134.96			134.36		
	G4	136.00		135.58	135.46	3/16 : 12		134.37	134.42			133.86		
	G5	135.45		135.04	134.92	1/8 : 12		133.83	133.90			133.37		
	G6	134.92		134.50	134.34			133.31	133.37			132.87		
	G7	134.38		133.96	133.84			132.78	132.85			132.37		
	G8	133.85		133.43	133.31			132.26	132.32	3/16 : 12		131.88		
	G9	133.31		132.89	132.77			131.73	131.80	1/8 : 12		131.38		
	G10	132.77 (-)	1/8 : 12 (-)	132.34	132.23 (-)	1/8 : 12 (-)		131.19	131.27 (-)	1/8 : 12 (-)		130.88		
INBOUND BRIDGE	G11	134.09 (-)	1/8 : 12 (-)	133.67	133.55 (-)	1/8 : 12 (-)		132.48	132.54 (-)	3/16 : 12 (-)		132.08		
	G12	133.56		133.12	133.00			131.94	132.01	1/8 : 12		131.58		
	G13	133.01		132.58	132.46			131.41	131.48			131.08		
	G14	132.48		132.05	131.93			130.89	130.96			130.59		
	G15	131.94		131.51	131.39			130.36	130.44			130.10		
	G16	131.41		130.97	130.85			129.84	129.91			129.60		
	G17	130.86		130.43	130.31			129.30	129.38	1/8 : 12		129.11		
	G18	130.33		129.89	129.77			128.78	128.86	1/16 : 12		128.62		
	G19	129.79		129.35	129.23			128.26	128.33			128.13		
	G20	129.26 (-)	1/8 : 12 (-)	128.82	128.70 (-)	1/8 : 12 (-)		127.73	127.81 (-)	1/16 : 12 (-)		127.64		



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STRUCTURE NO. 451
TYPICAL PIER CAP DETAIL
PIER LINE 1 & 2
INTERSTATE ROUTE H-1
F.A.I. Proj No. I-HI-1(22)-5, Unit 3
Date: Dec. 1967
SHEET No. 6 OF 14 SHEETS

86

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(22):5 UNIT 3	1967	87	101



PG-IV A AT ABUTMENT N°1 or N°2
TYPICAL END OF GIRDER DETAILS
 Scale: 3/4" = 1'-0"

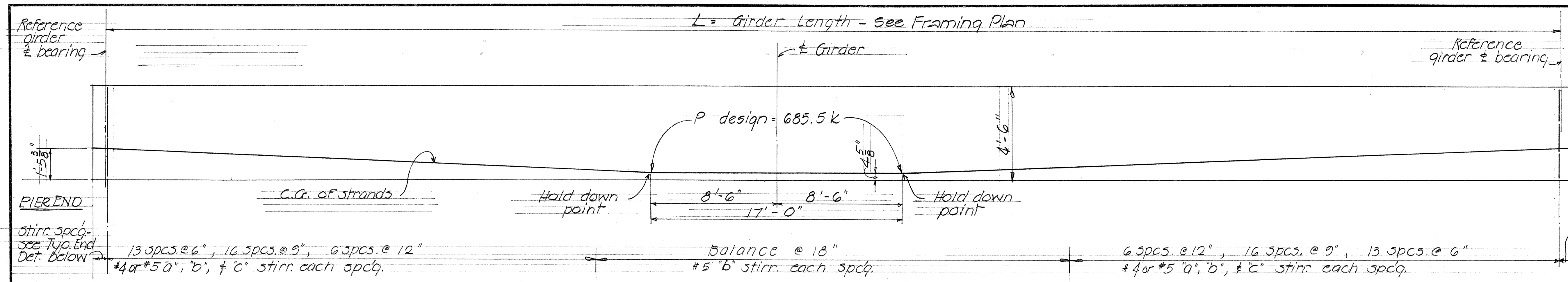
DECK FRAMING PLAN
 Scale: 1" = 10'-0"

Note!!
 1. Girder lengths L = horizontal measurement. see girder detail sht. # 8.
 2. The contractor shall determine total length of girder.

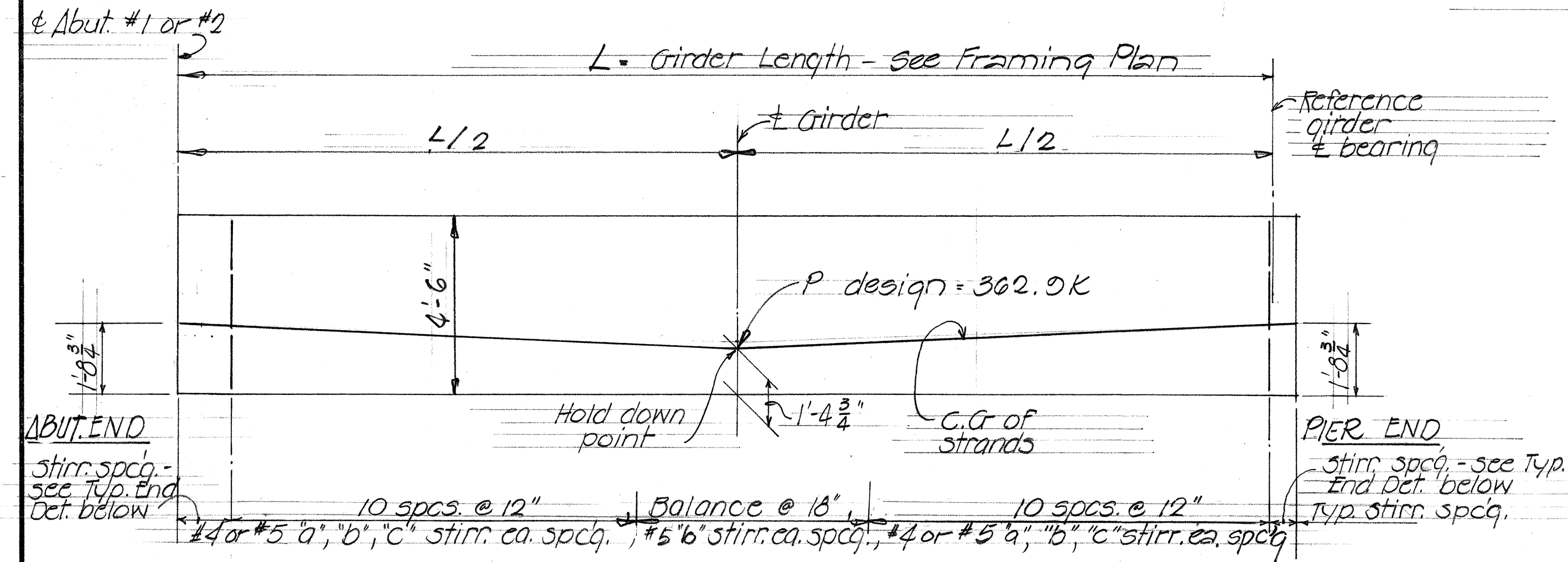
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
STRUCTURE NO. 451
DECK GIRDER FRAMING
PLAN & DETAIL
 INTERSTATE ROUTE H-1
 F.A.I. Proj No. I-H-1(22):5, Unit 3
 Date: Dec. 1967
 SHEET No. 7 OF 14 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	11-67
DESIGNED BY	11-67
CHECKED BY	11-67
NOTED BY	11-67
ORIGINAL PLAN	
NOTE BOOK	
NO.	

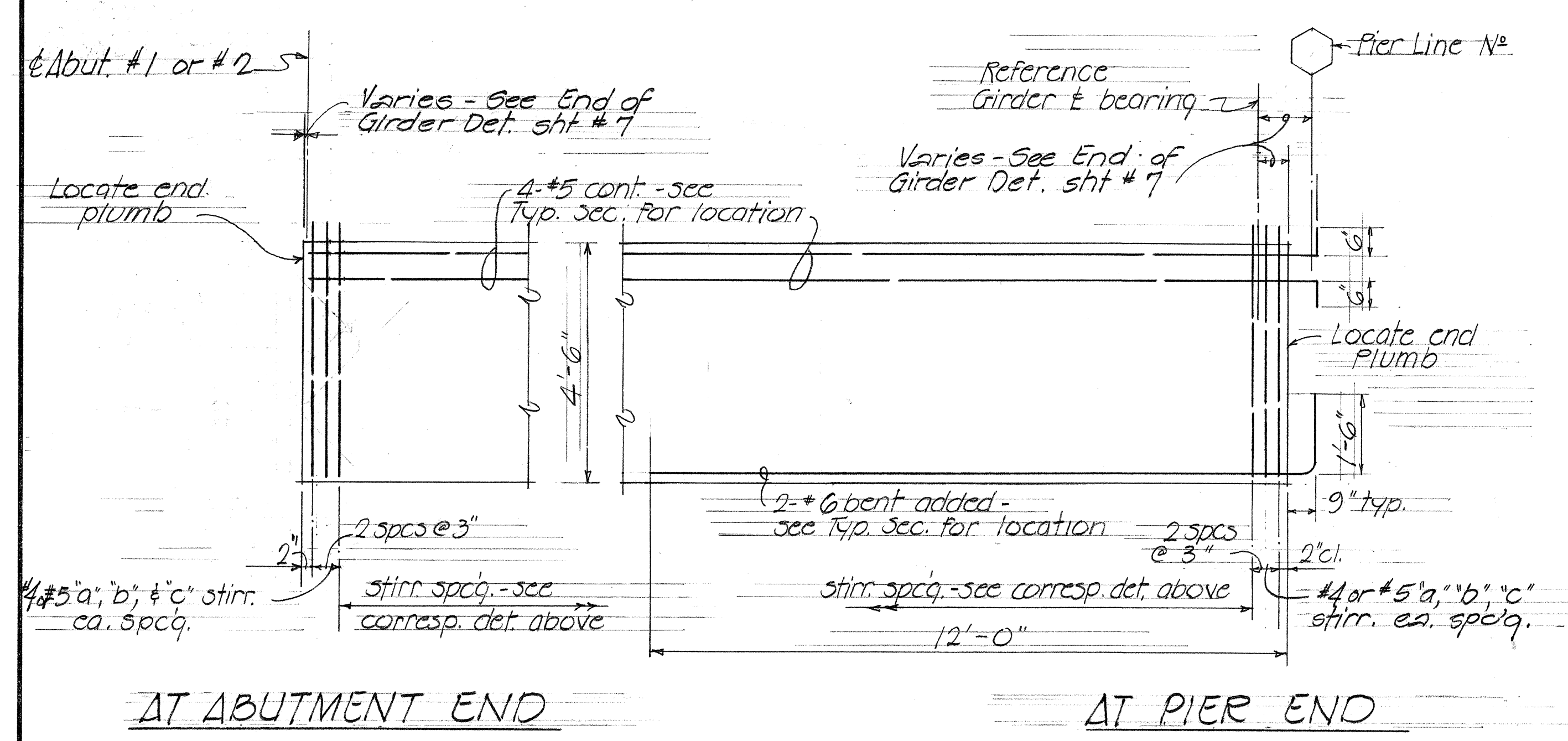
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(22):5 UNIT 3	1967	88	101



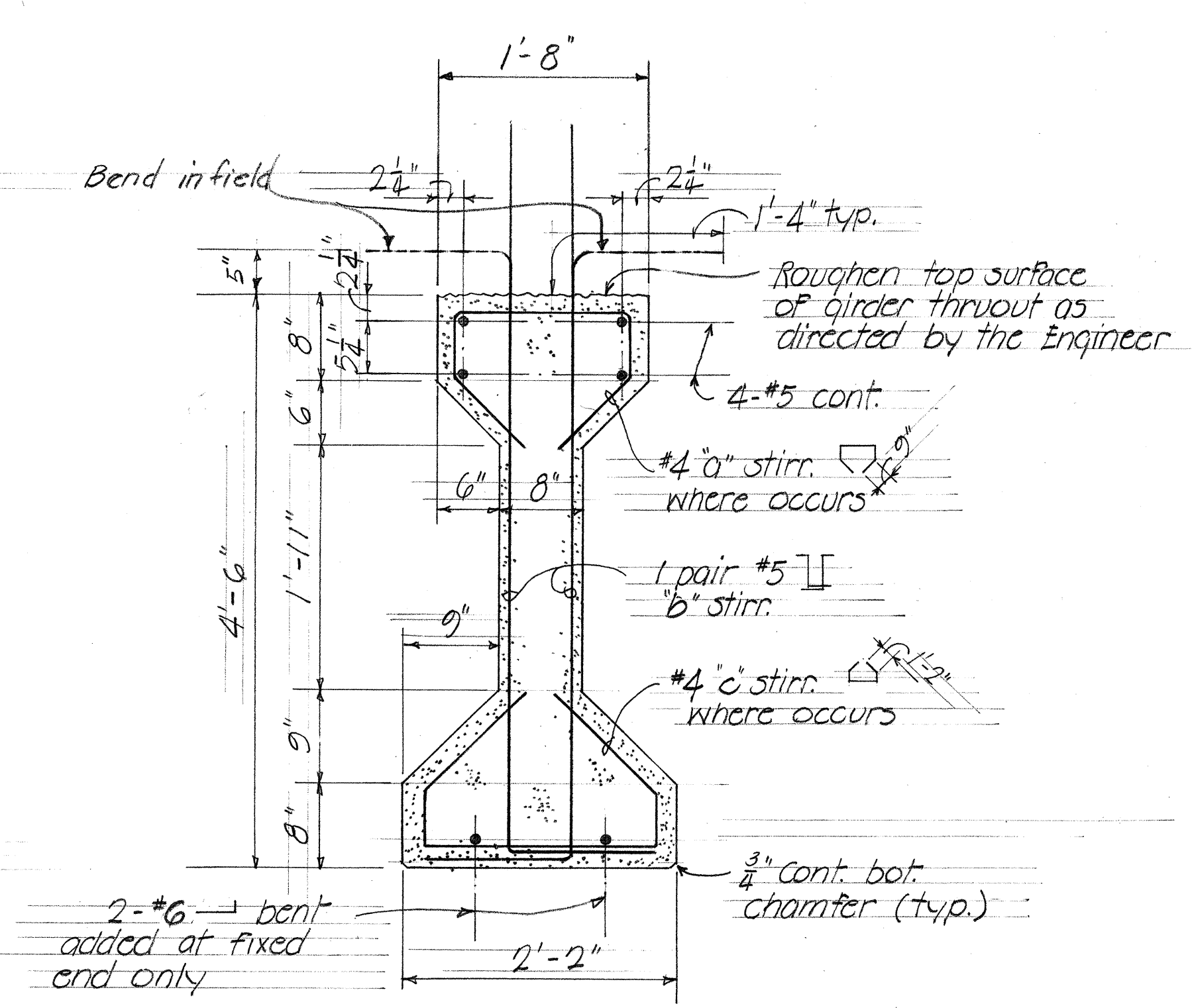
TYPICAL TYPE PG-IV B GIRDER DETAIL
NOT TO SCALE



TYPICAL TYPE PG-IV A GIRDER DETAIL
NOT TO SCALE



TYPICAL GIRDER END DETAILS
SCALE: 1/2" = 1'-0"



TYPICAL GIRDER SECTION
SCALE: 1" = 1'-0"

NOTE:
1. for additional anchor in prestressed girder for beam connection - see sht. # 9

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

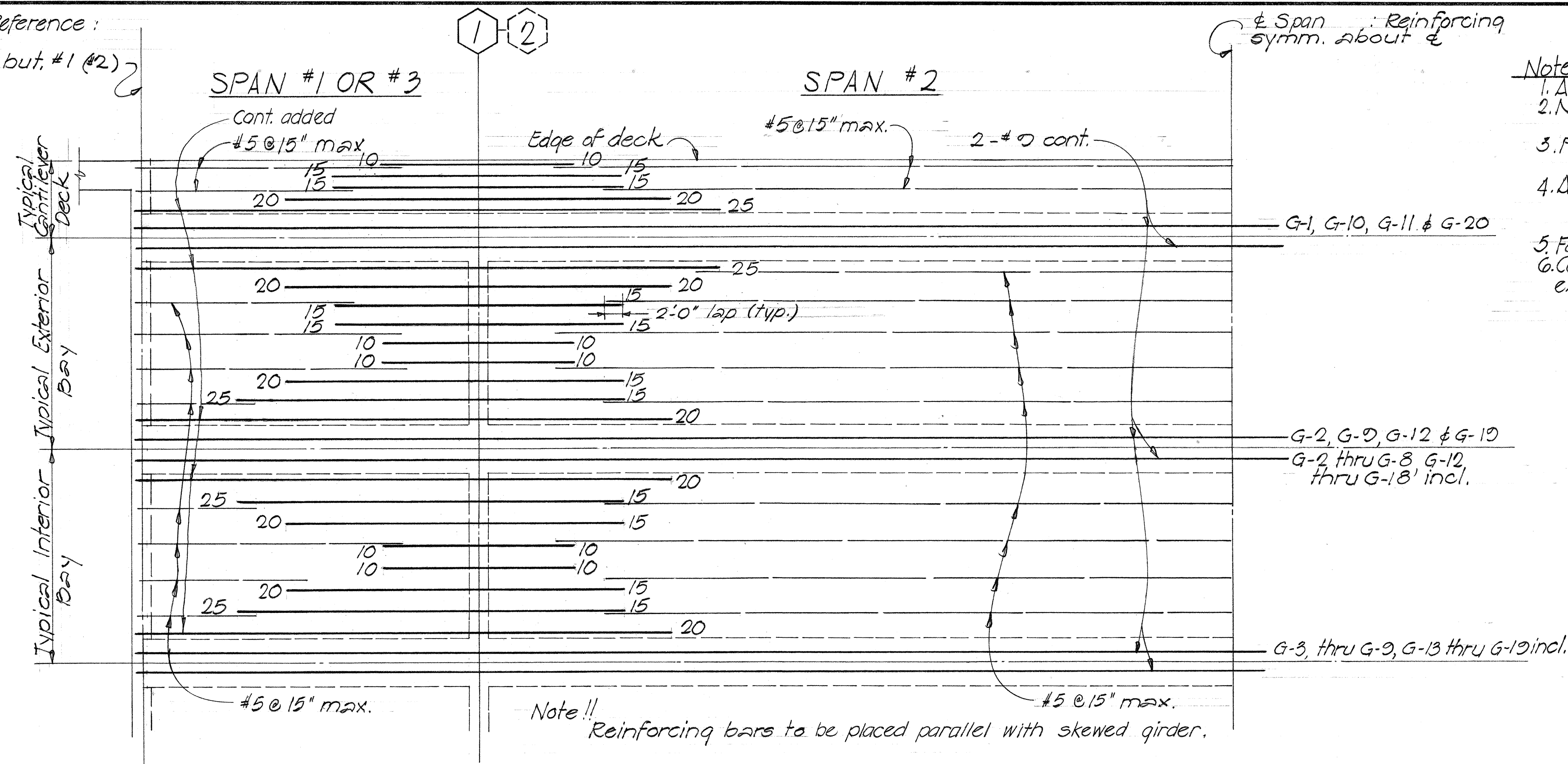
STRUCTURE NO. 451
PRESTRESS GIRDER DETAILS

INTERSTATE ROUTE H-1
F.A.I. Proj. No. I-HI-1(22):5, Unit 3
Date: Dec. 1967

SHEET No. 8 OF 14 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	11-67
DESIGNED BY	11-67
QUANTITIES BY	11-67
CHECKED BY	11-67
ORIGINAL PLAN	
NOTE BOOK	
No.	

Reference:
Abut. #1 (#2)



- Note 11
1. All reinforcing #5 except as otherwise noted.
 2. Number at ends of bars indicate distance in feet from Pier Line No.
 3. For additional slab reinforcement details see Normal Section.
 4. All #5 @ 15" max. bars shall be extended & lapped 2'-0" min. with the adjacent #5 bars as shown.
 5. For additional top reinf. see sht # 9
 6. Cont.-added are bars from one span extended partially into the adjacent span.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(22)-5 UNIT 3	1967	90	101

TYPICAL PLACEMENT DIAGRAM - DECK SLAB TOP LONGITUDINAL REINFORCEMENT (INBOUND AND OUTBOUND BRIDGES)

Scale: Longitudinal - $\frac{1}{8}" = 1'-0"$
Transverse - $\frac{3}{8}" = 1'-0"$

SURVEY PLOTTED BY	DATE
DRAWN BY	10-67
DESIGNED BY	10-67
QUANTITIES BY	10-67
CHECKED BY	10-67
ORIGINAL PLAN	NOTE BOOK
No.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

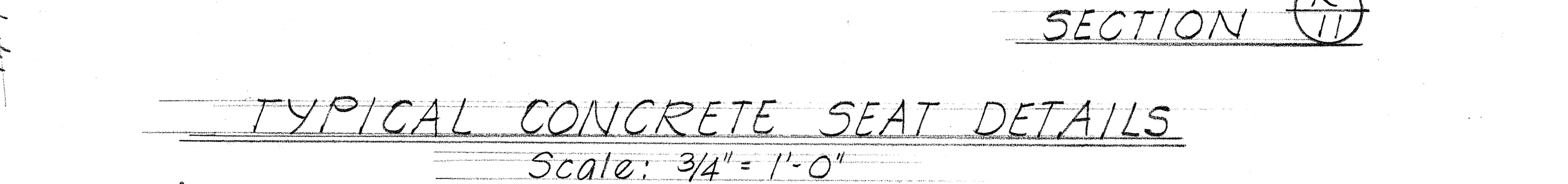
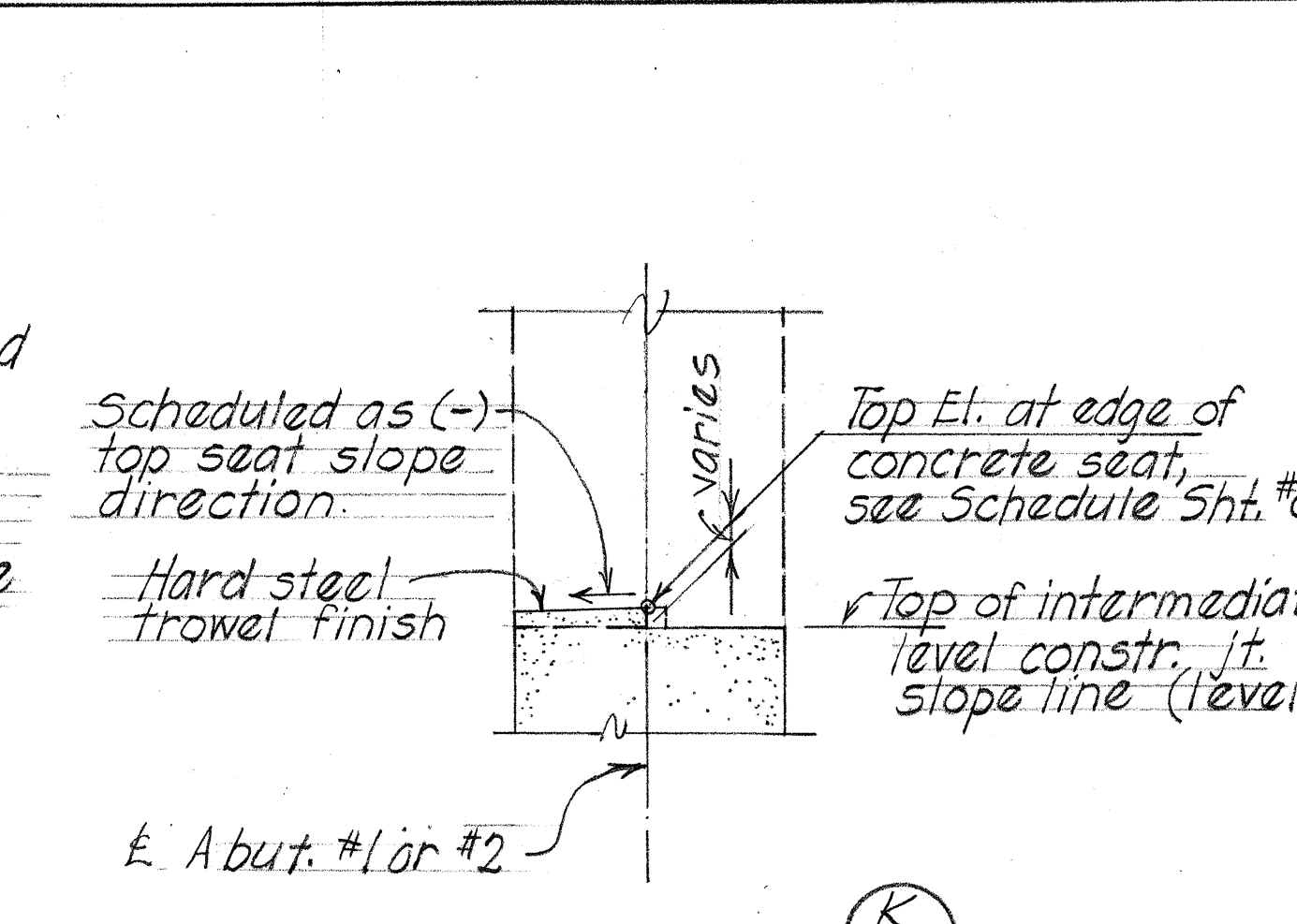
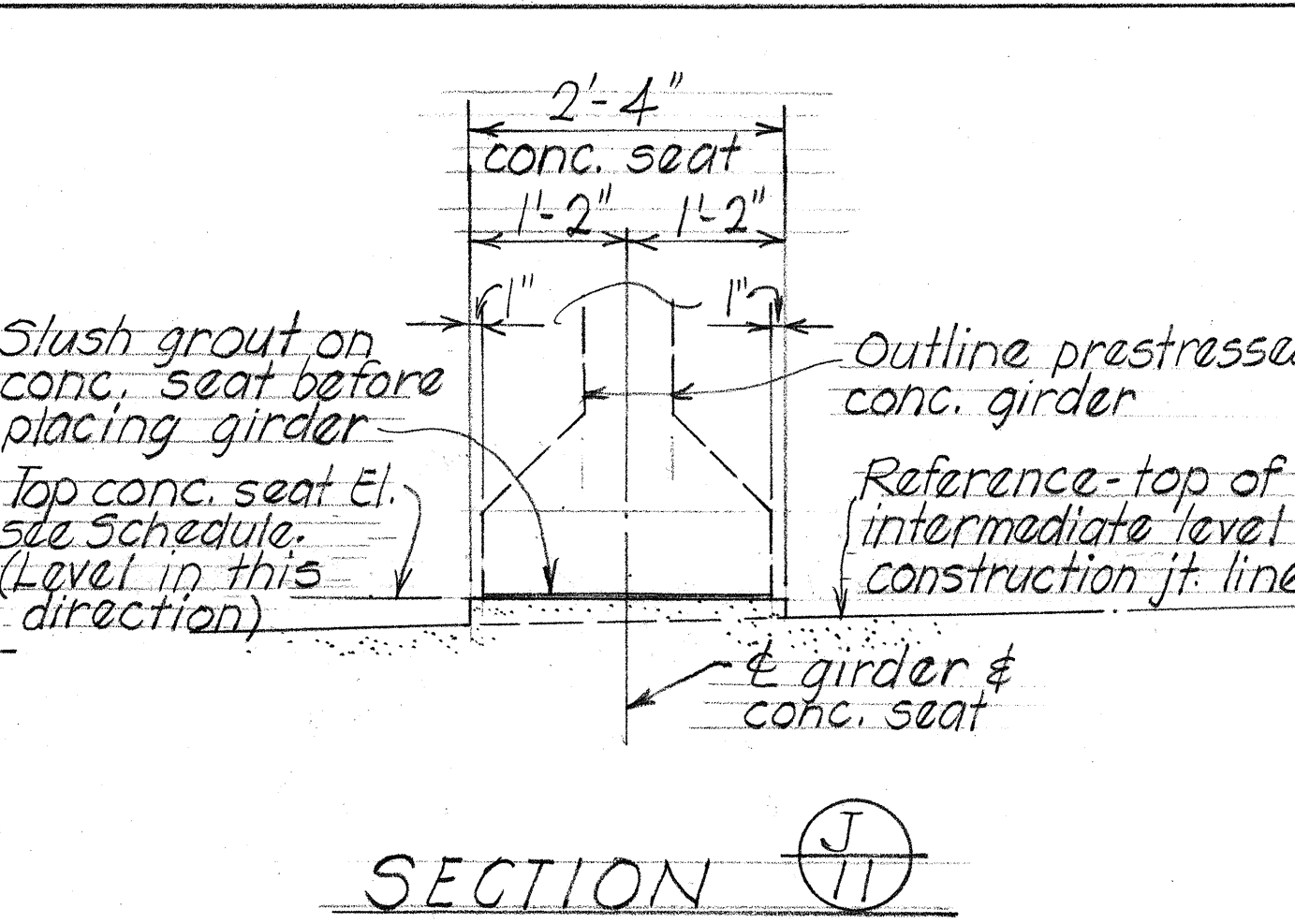
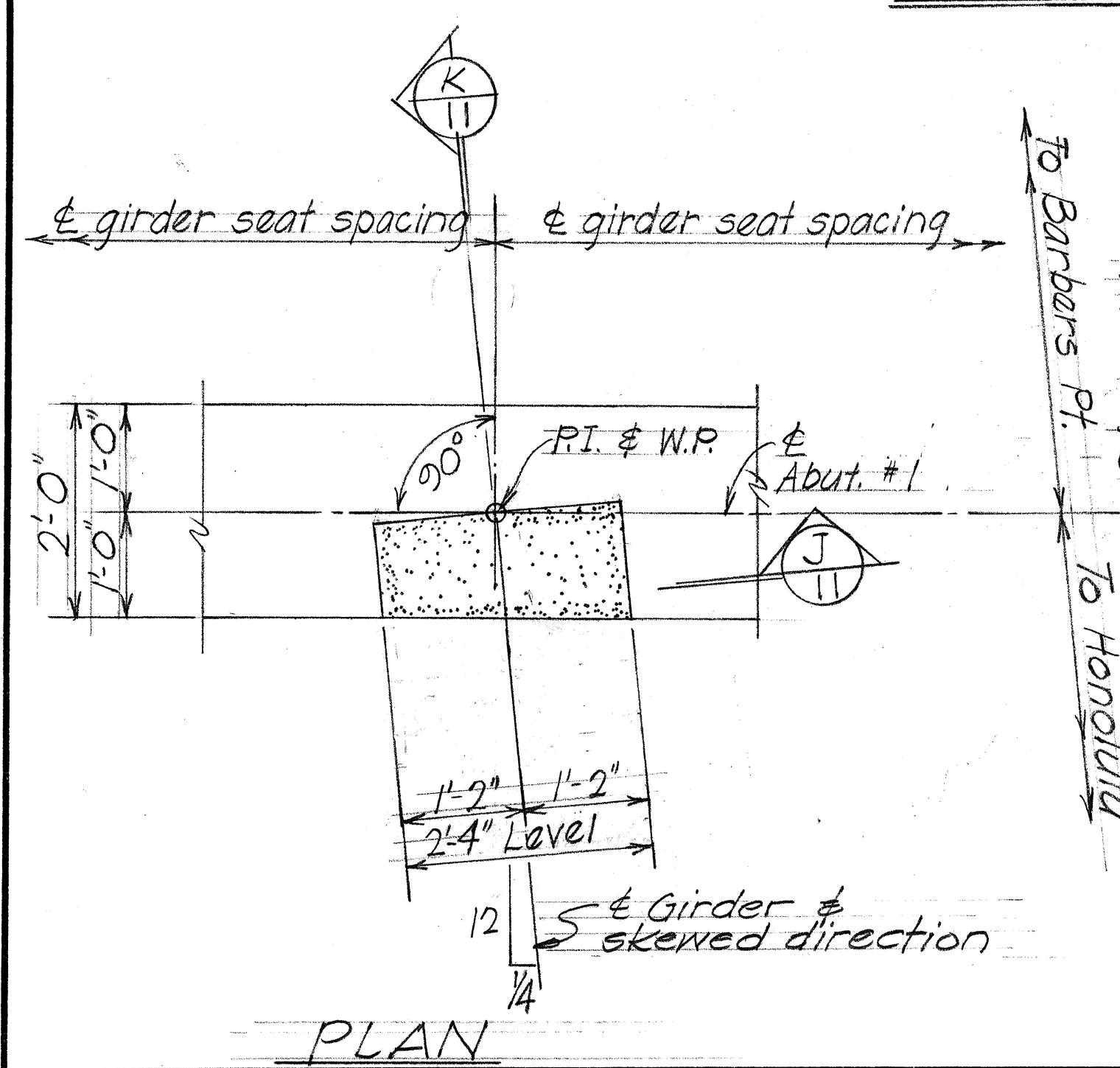
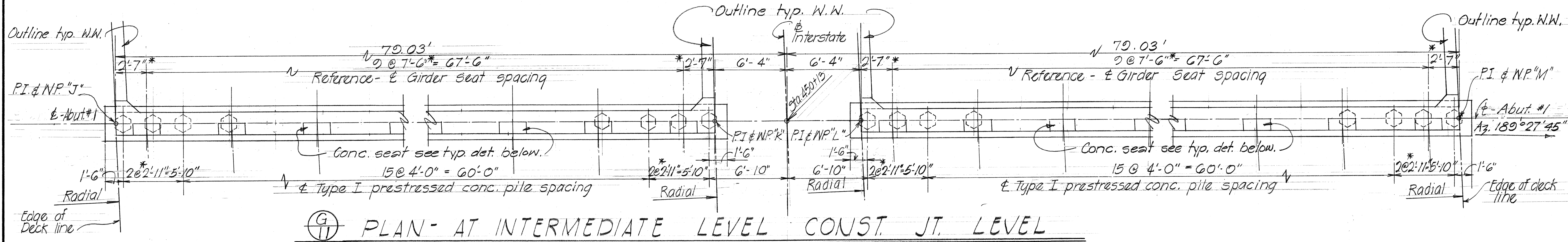
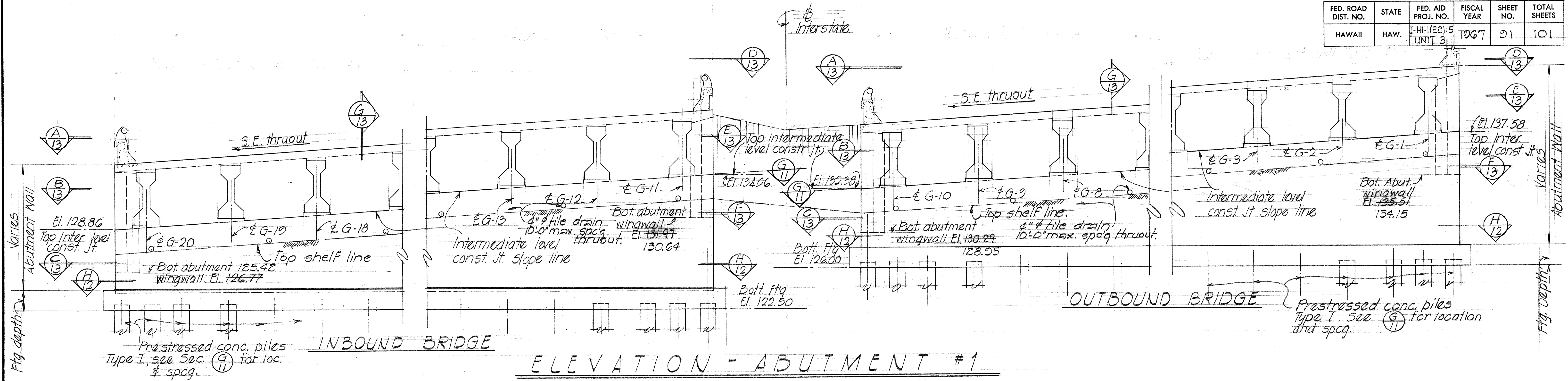
STRUCTURE NO. 451

**DECK STEEL PLACEMENT
DIAGRAM & DETAILS**

INTERSTATE ROUTE H-1
F.A.I. Proj. No. I-HI-1(22)-5, Unit 3
Date: Dec. 1967

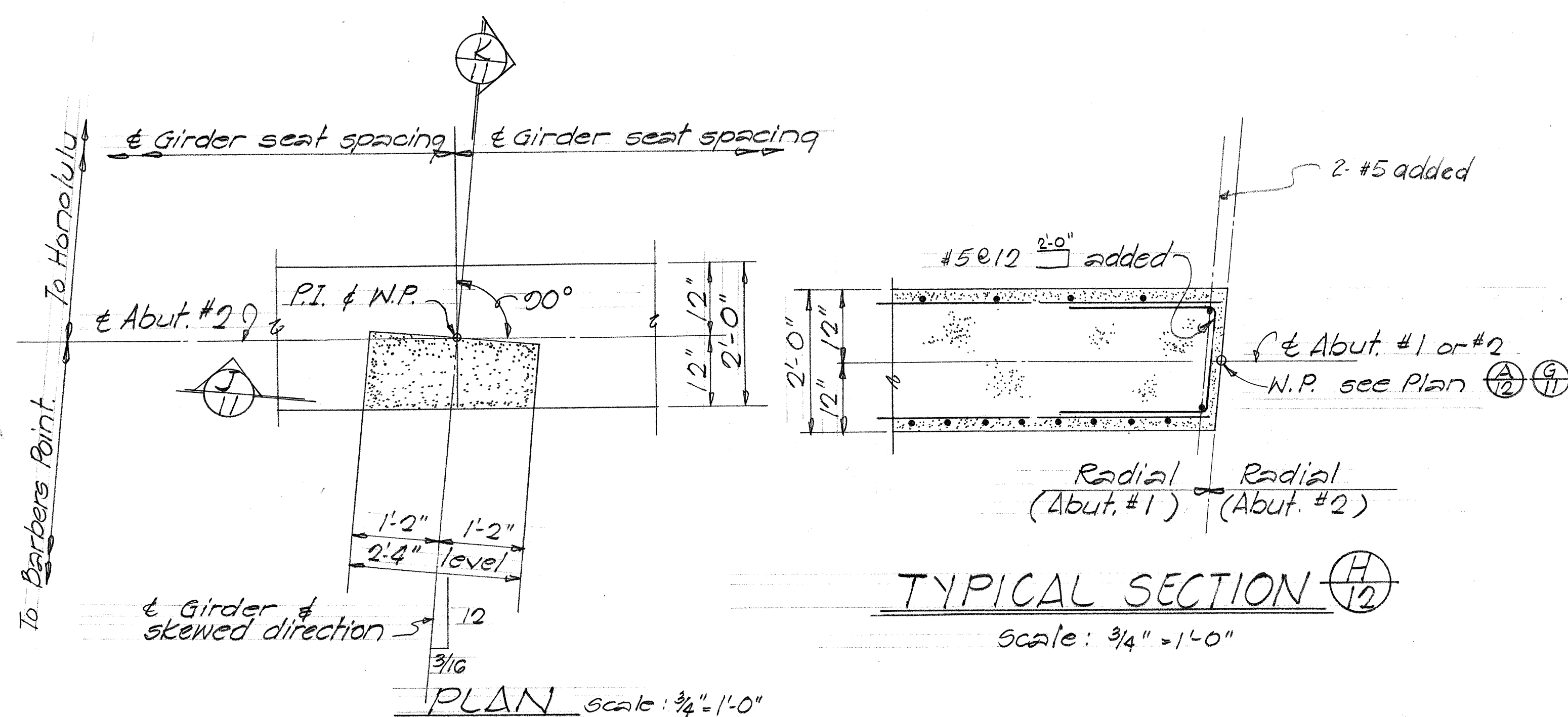
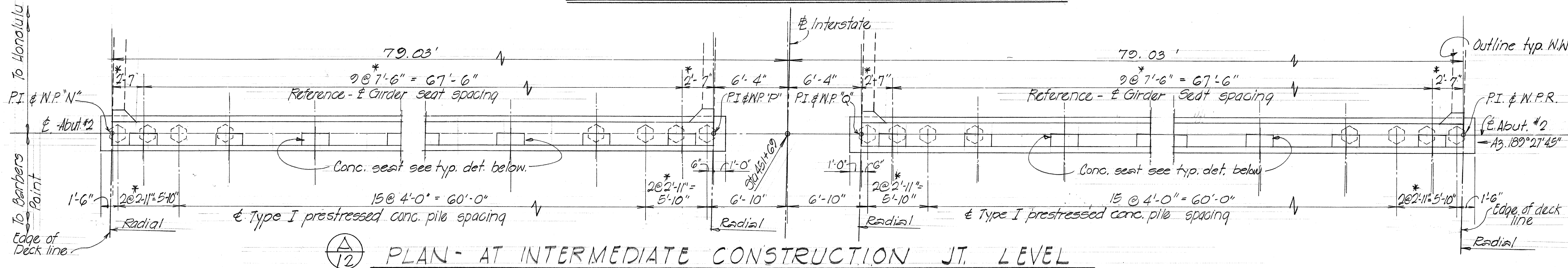
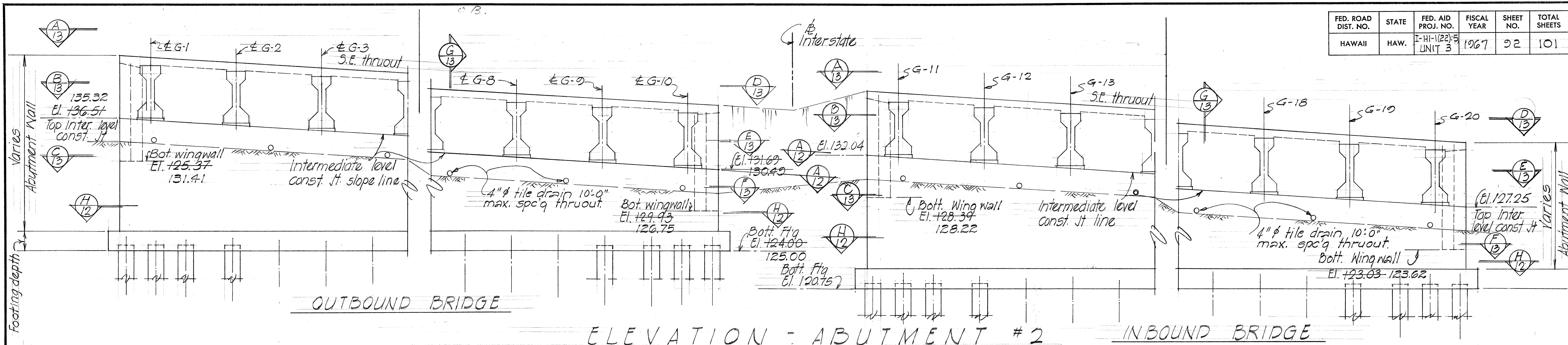
SHEET No. 100 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(22)-5 UNIT 3	1967	91	101



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STRUCTURE No 451
ABUTMENT #1 SECTIONS & DETAILS
Sta. 450 + 12.00 To Sta. 451 + 70.00
INTERSTATE ROUTE H-1
F.A.I. Proj. No I-HI-1(22)-5, Unit 3
Date: Dec 1967
SHEET No. 11 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
HAWAII	HAW.	I-HI-1(22):5 UNIT 3	1967	92	101



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE N^o 451

ABUTMENT #2 SECTIONS & DETAILS

Sta 450 + 12.00 to Sta. 451 + 70.00

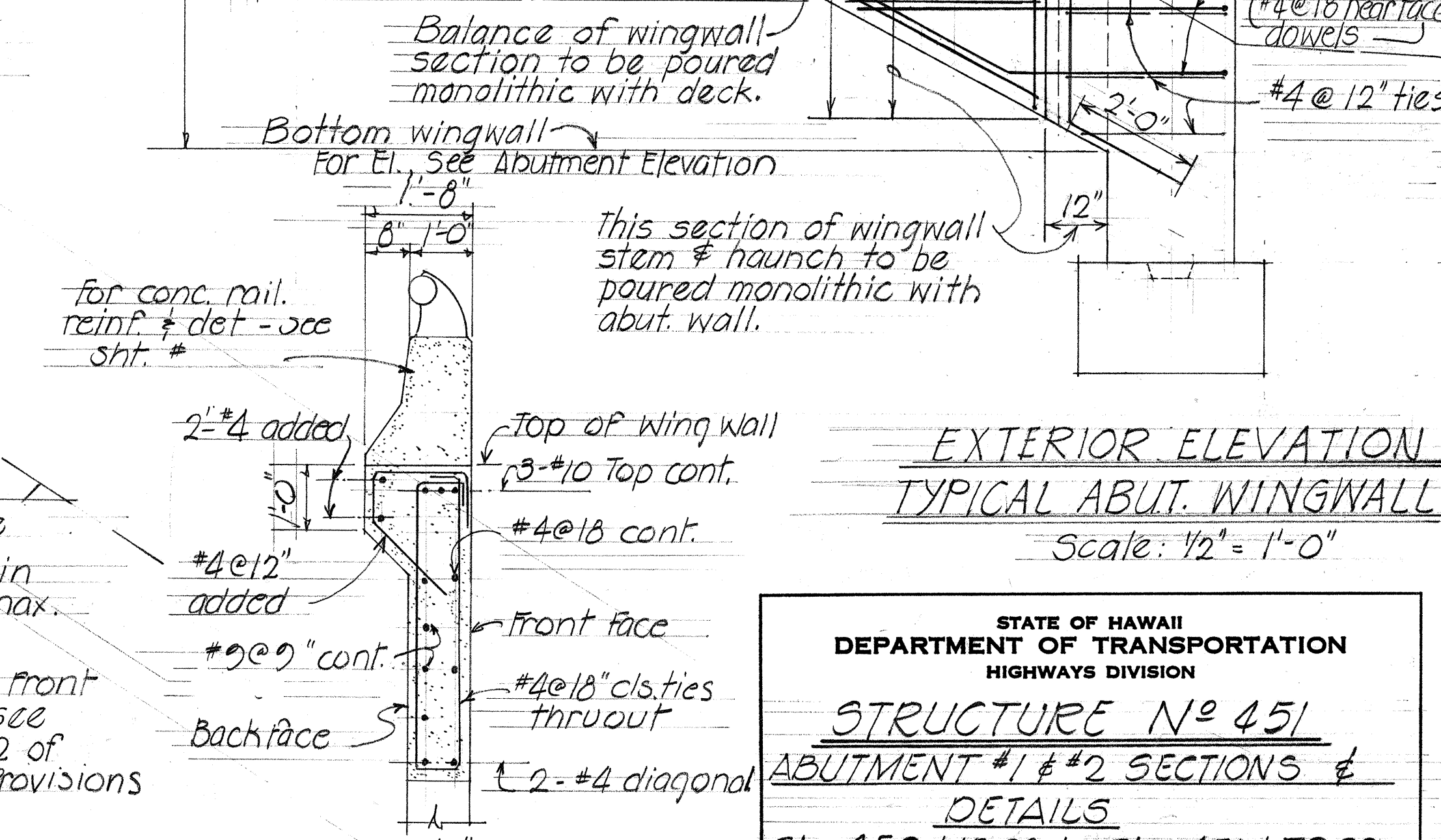
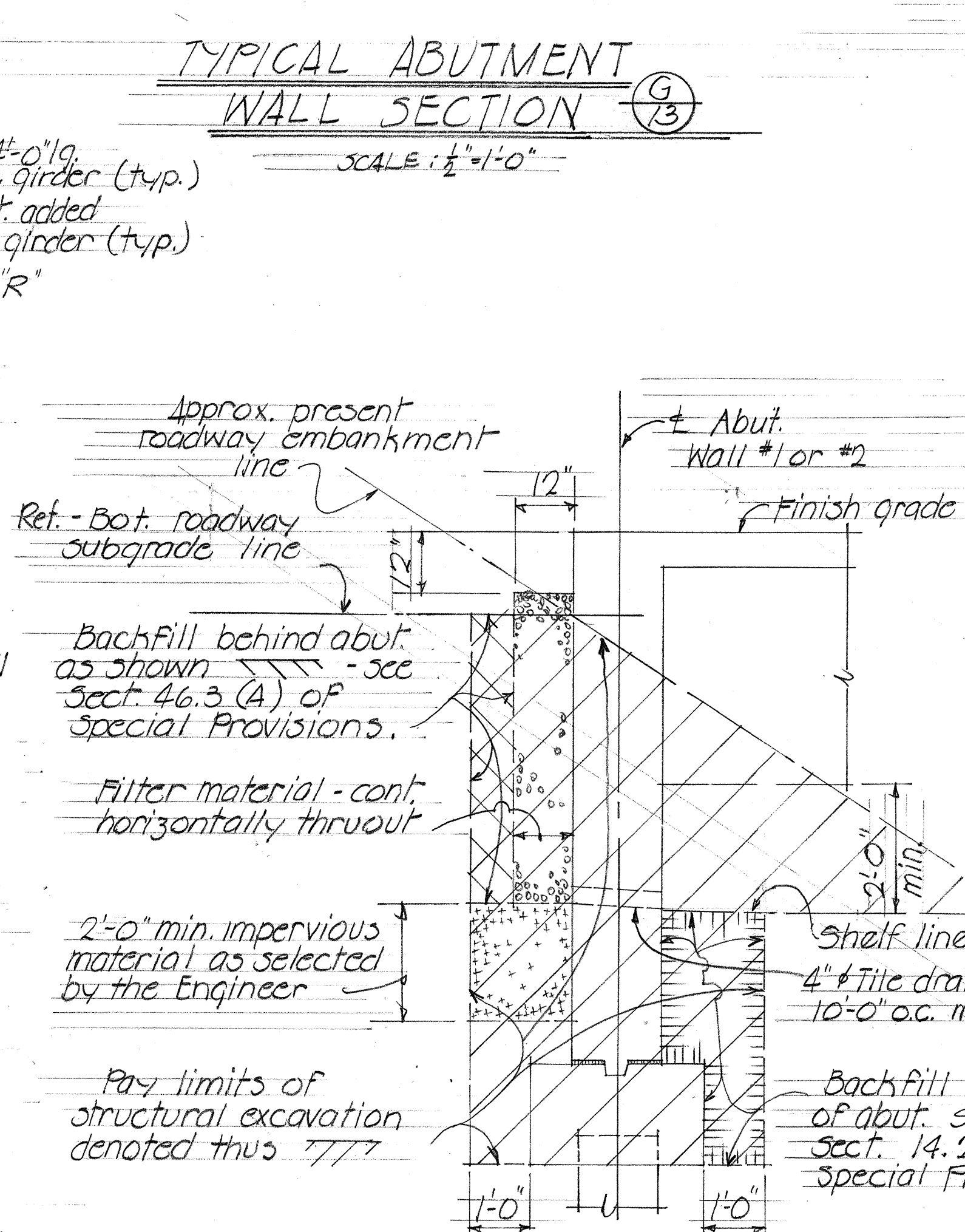
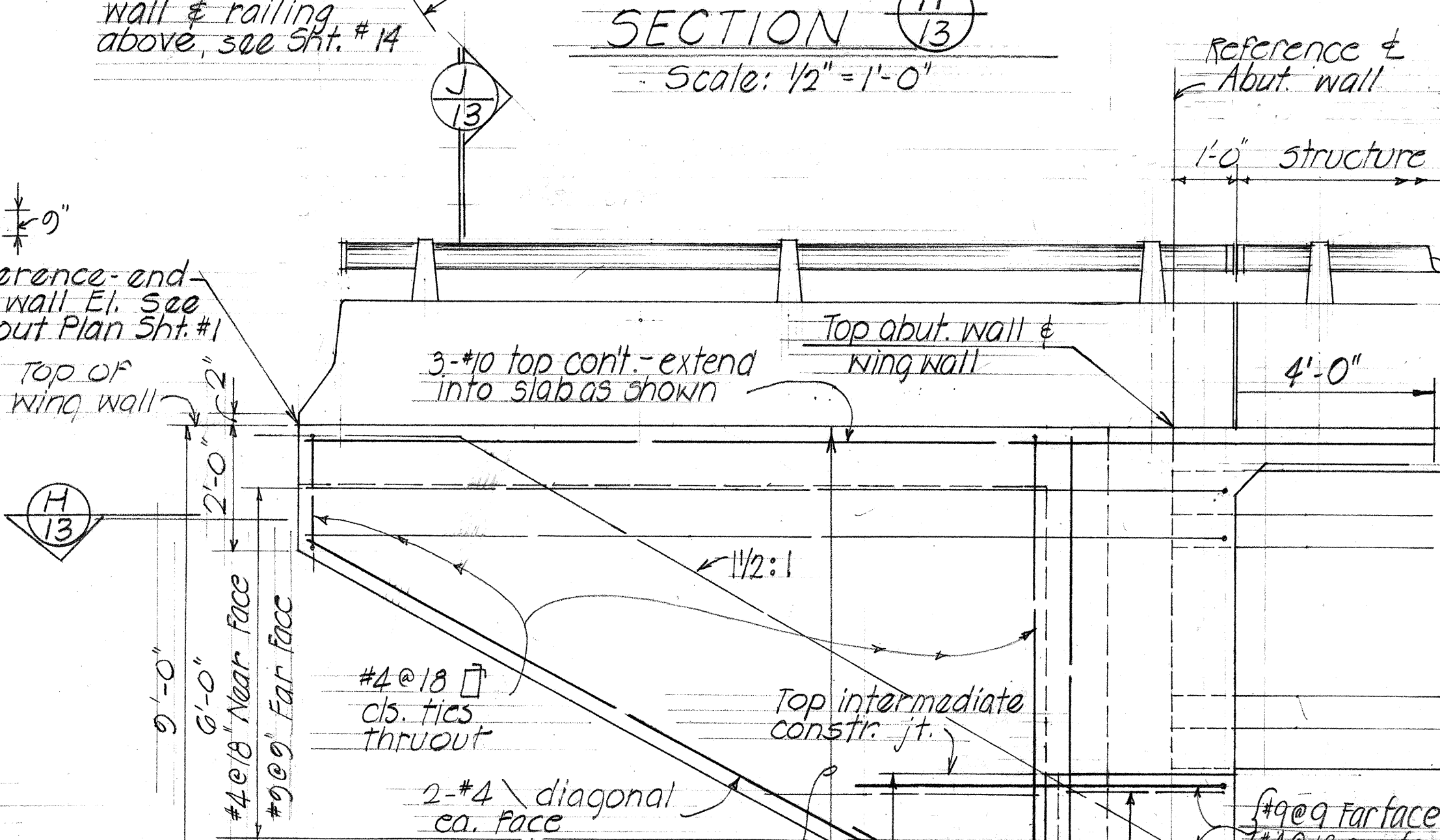
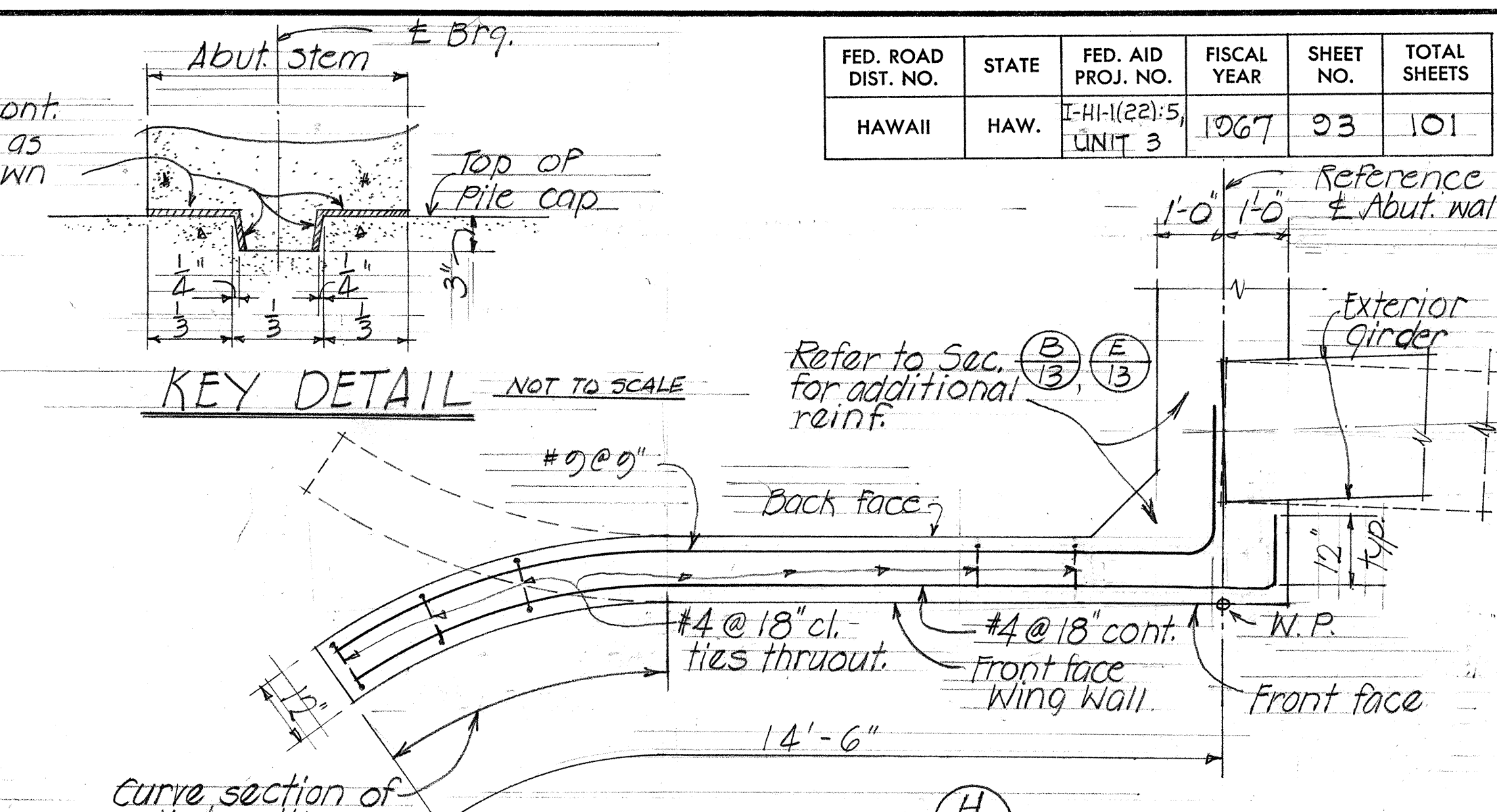
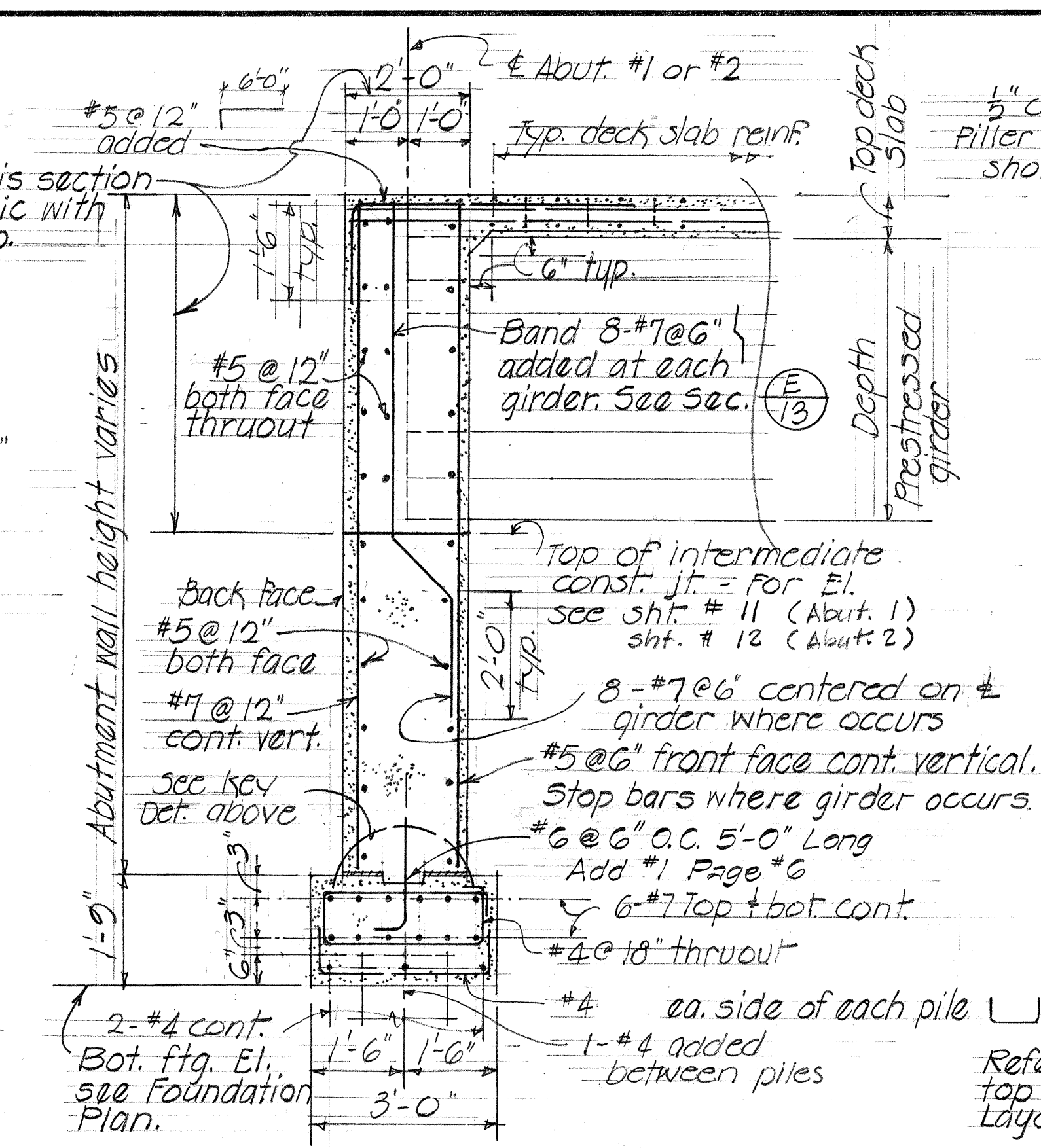
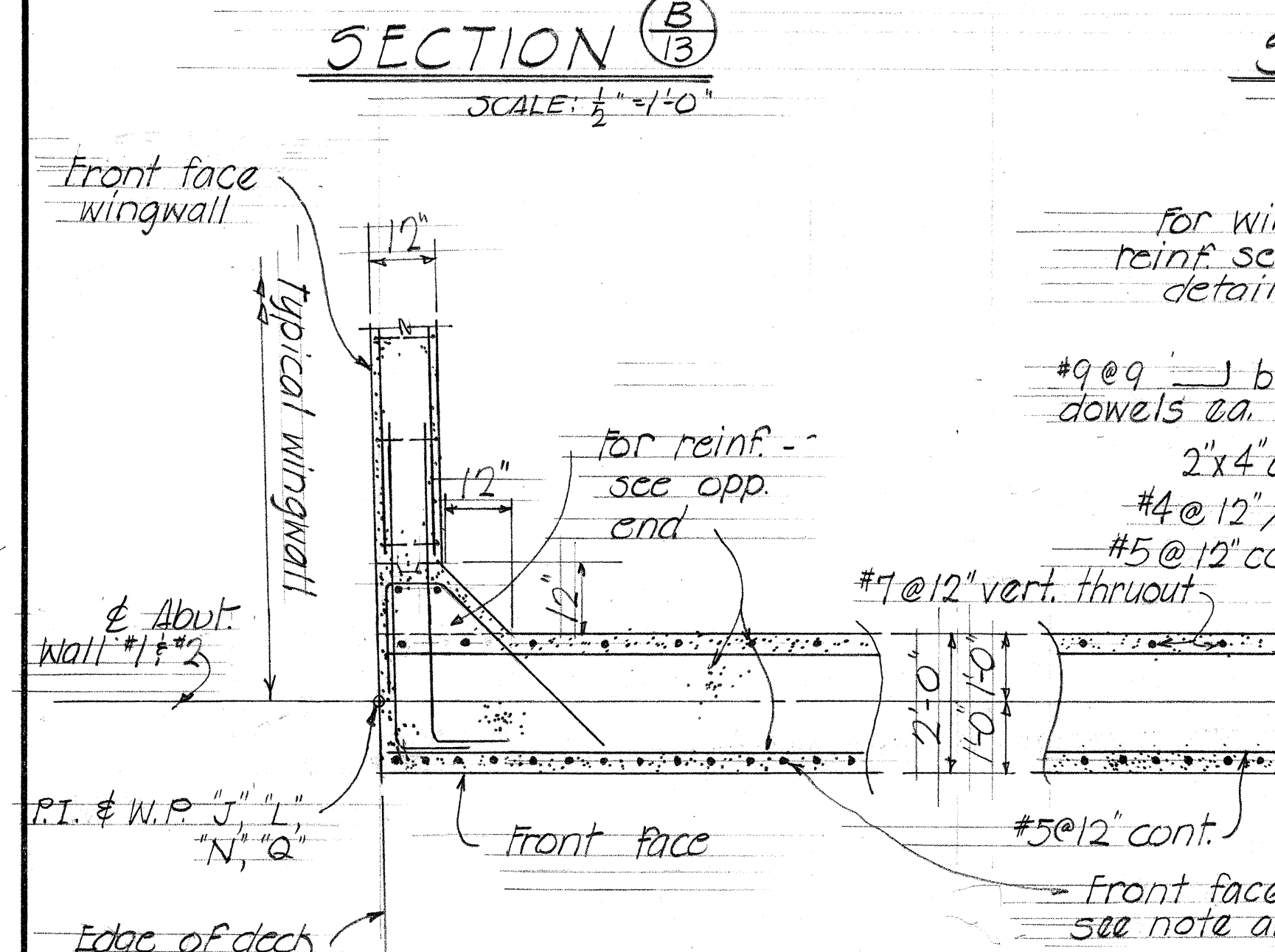
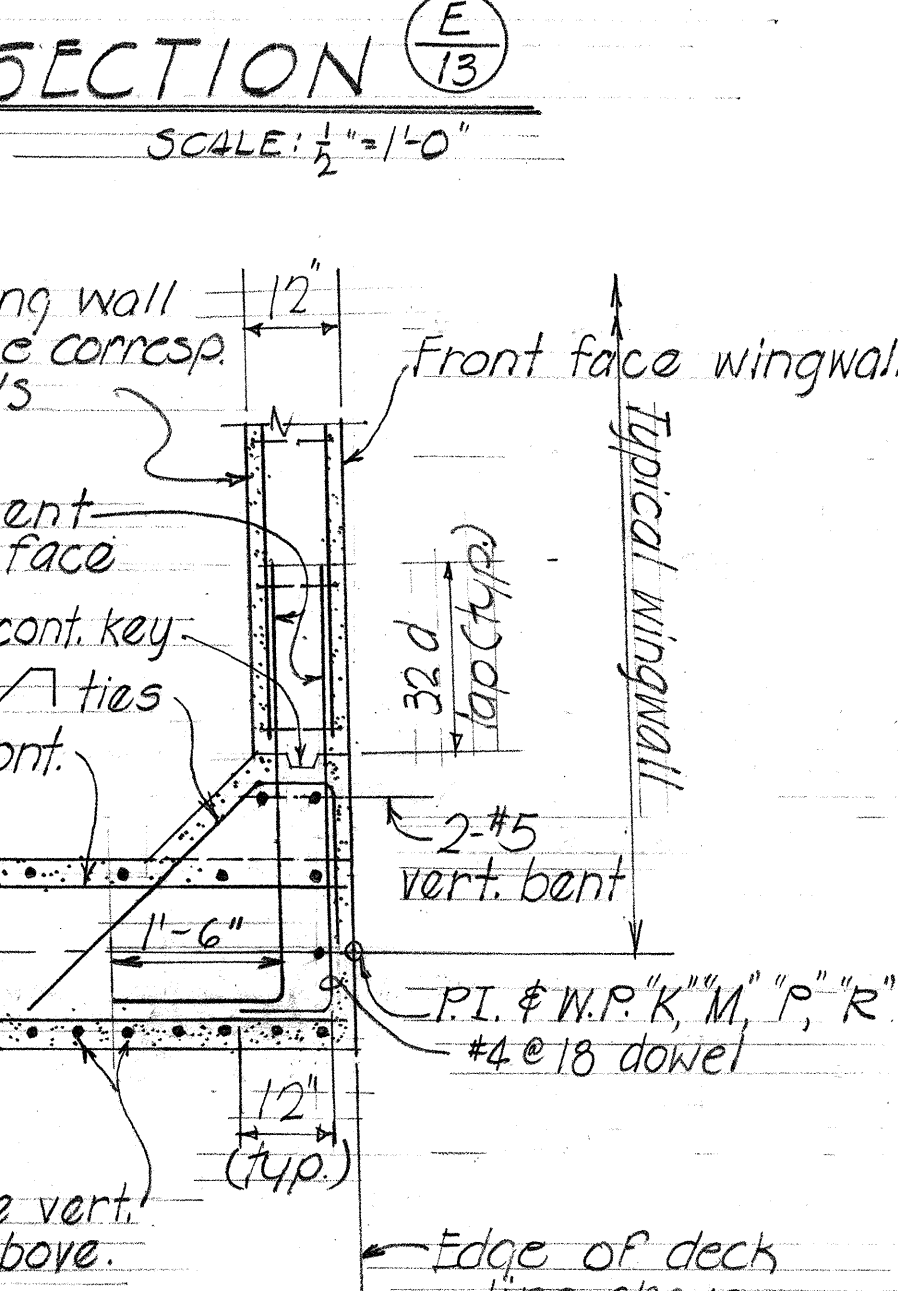
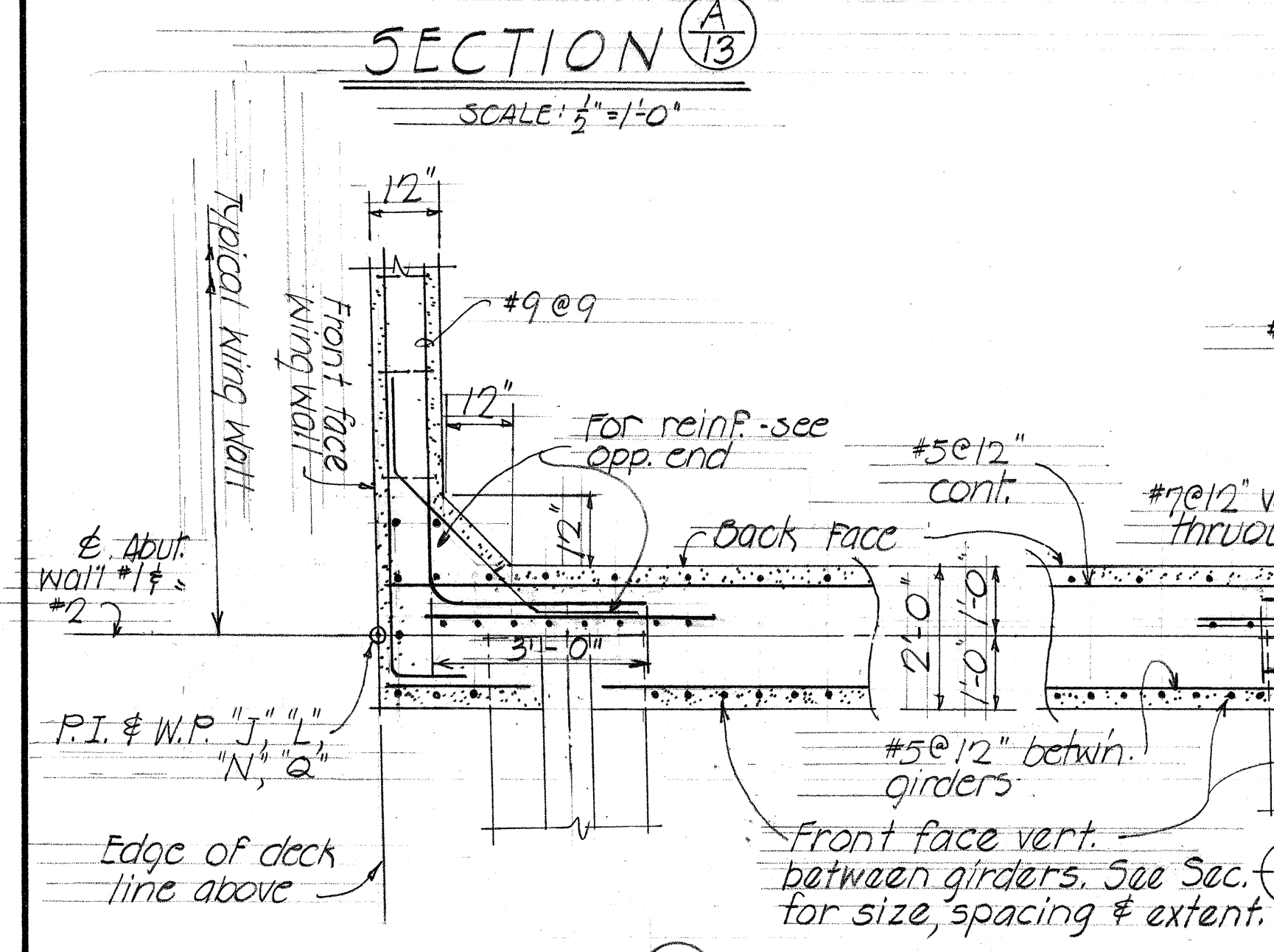
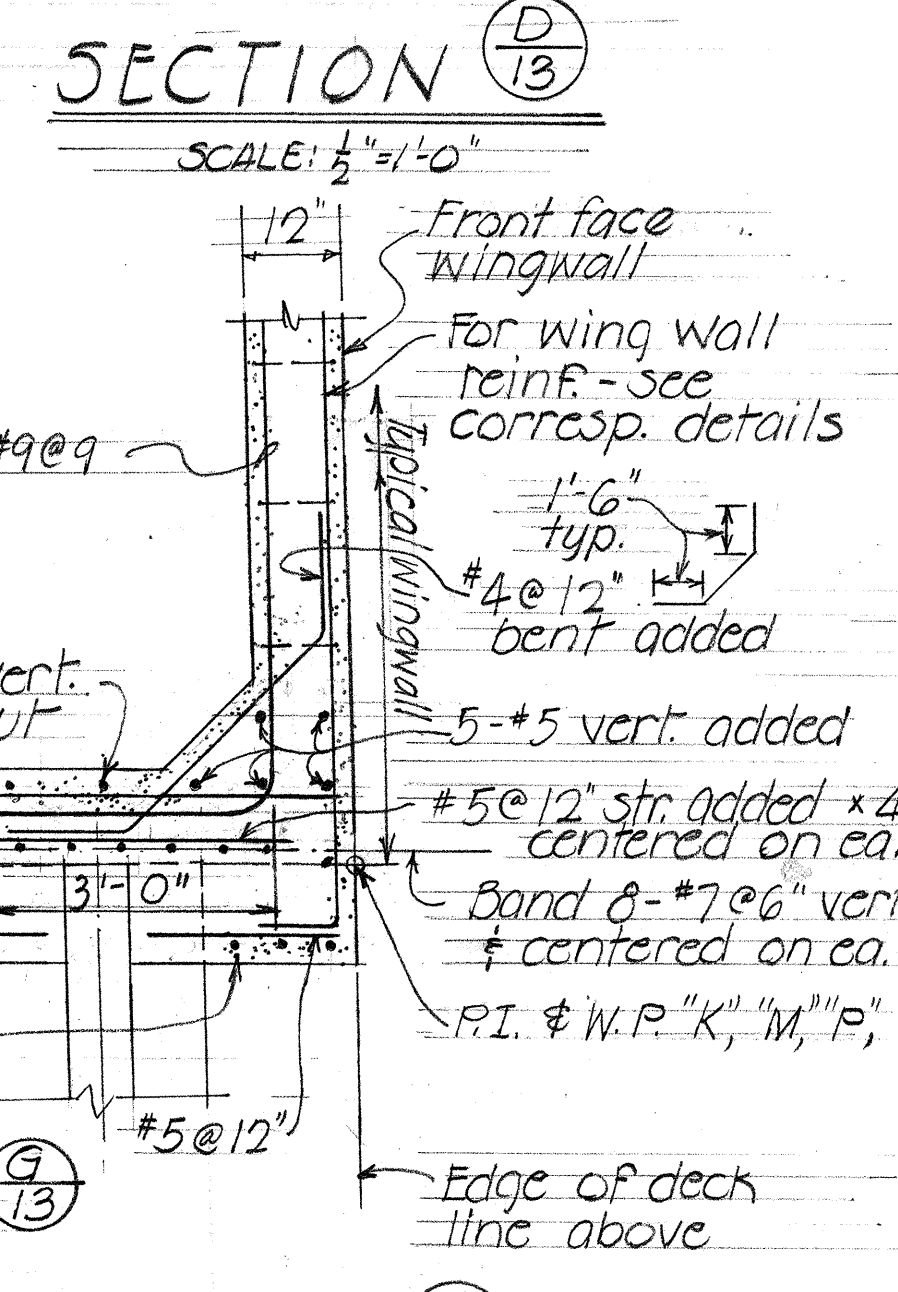
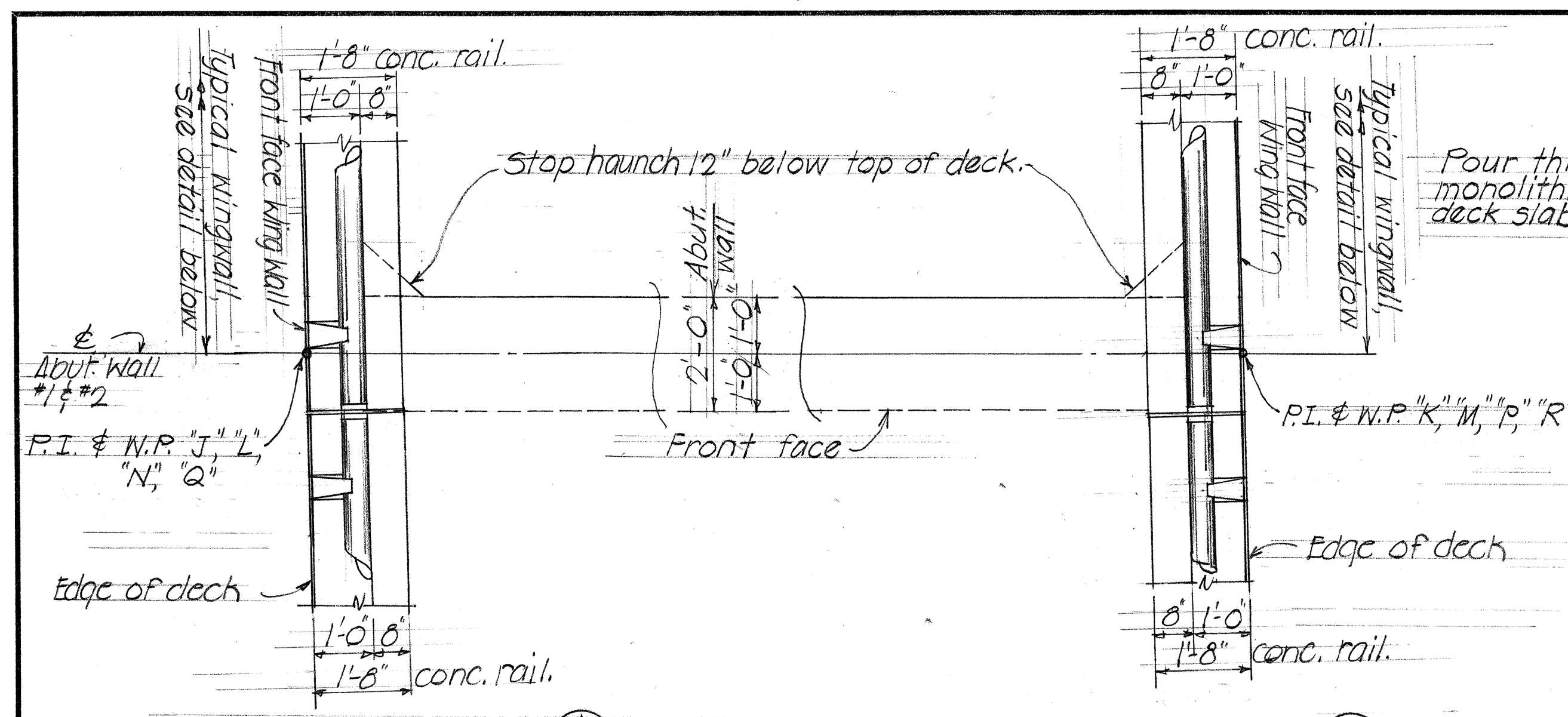
INTERSTATE ROUTE H-1

F.A.I. Proj. N^o I-HI-1(22):5, Unit 3

Date: Dec. 1967

SHEET No. 12 OF 14 SHEETS

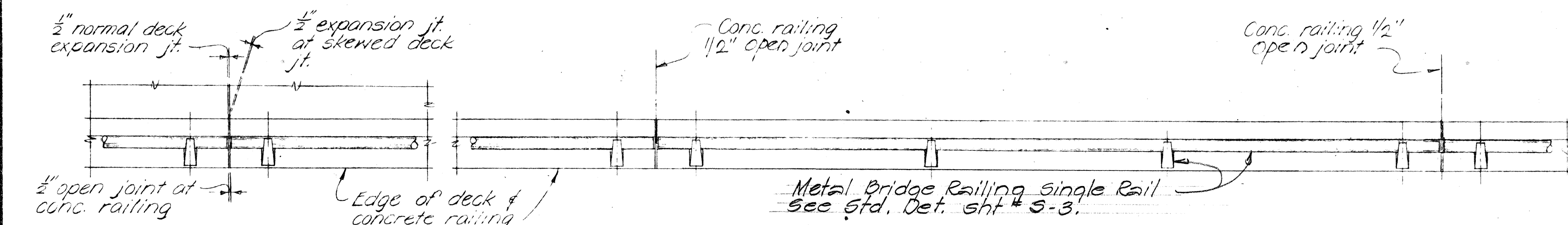
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(22)-5, UNIT 3	1967	93	101



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STRUCTURE No 451
ABUTMENT #1 & #2 SECTIONS & DETAILS
Sta 450 + 12.00 to Sta. 451 + 70.00
INTERSTATE ROUTE H-1
F.A.I. Proj. No I-HI-1(22)-5, Unit 3
Dec. 1967
SHEET No. 13 OF 14 SHEETS

DATE 10-67
DRAWN BY W.B.
DESIGNED BY H.K.
CHECKED BY J.E.
ORIGINAL PLAN
NOTE BOOK
No.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IHI-1(22)5 UNIT 3	1967	94	101



AI DECK EXPANSION JOINT

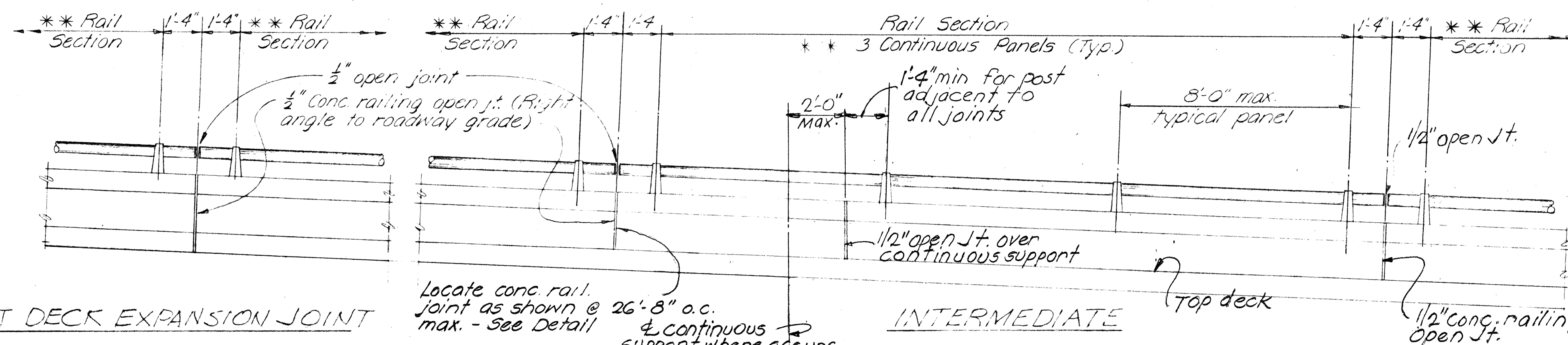
* * NOTE !!

The contractor shall layout the railing to provide 3 cont. panels whenever possible. 2 or 4 cont. panels will be permitted to complete the layout when 3 cont. panels cannot be made. Single panels will not be permitted.

RAILING PLAN Scale: 8"=1'-0"

Rail Posts shall be normal to grade

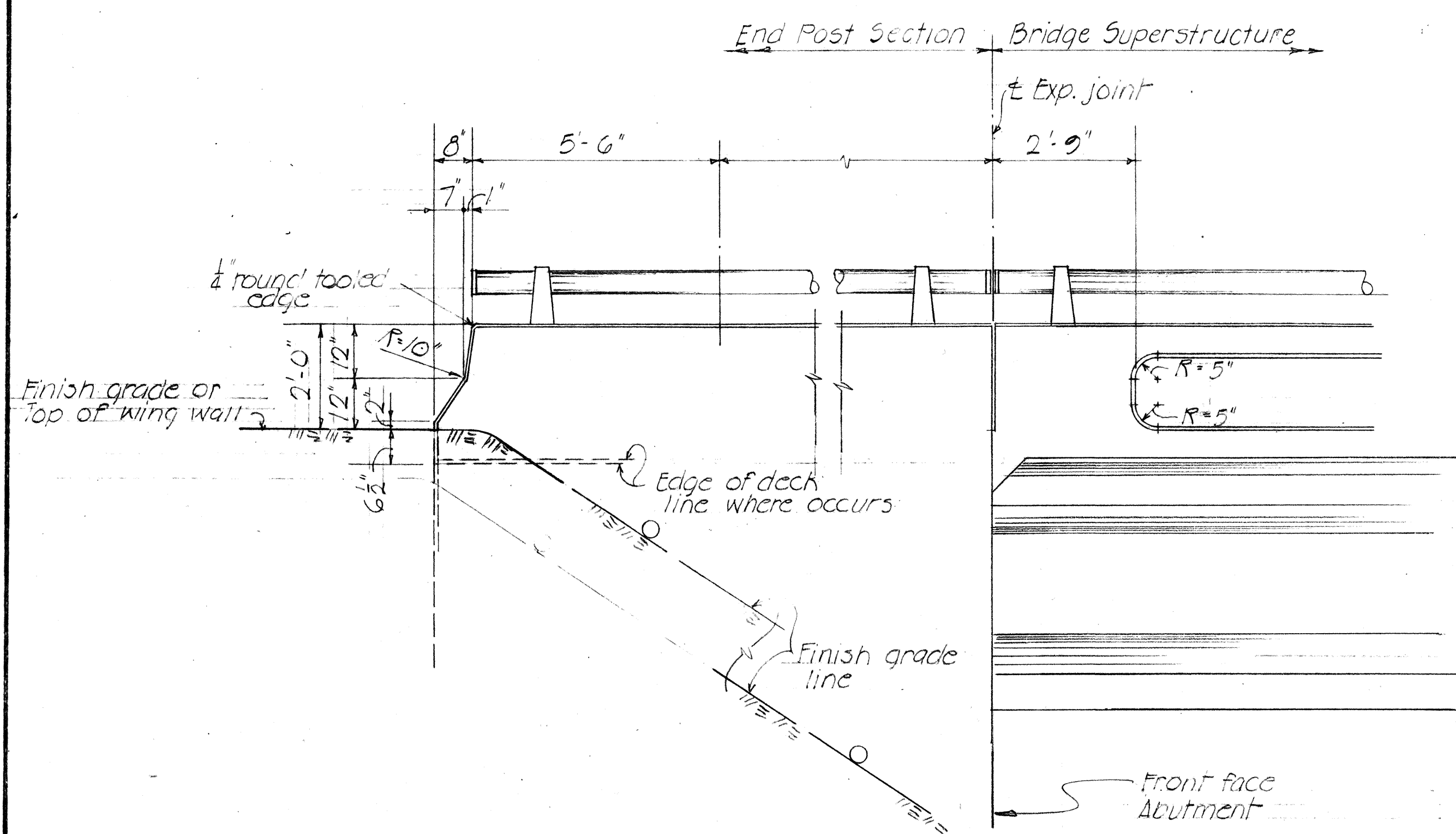
Provide double posts at each expansion jt, fixed bridge jt and as shown on detailed drawings.



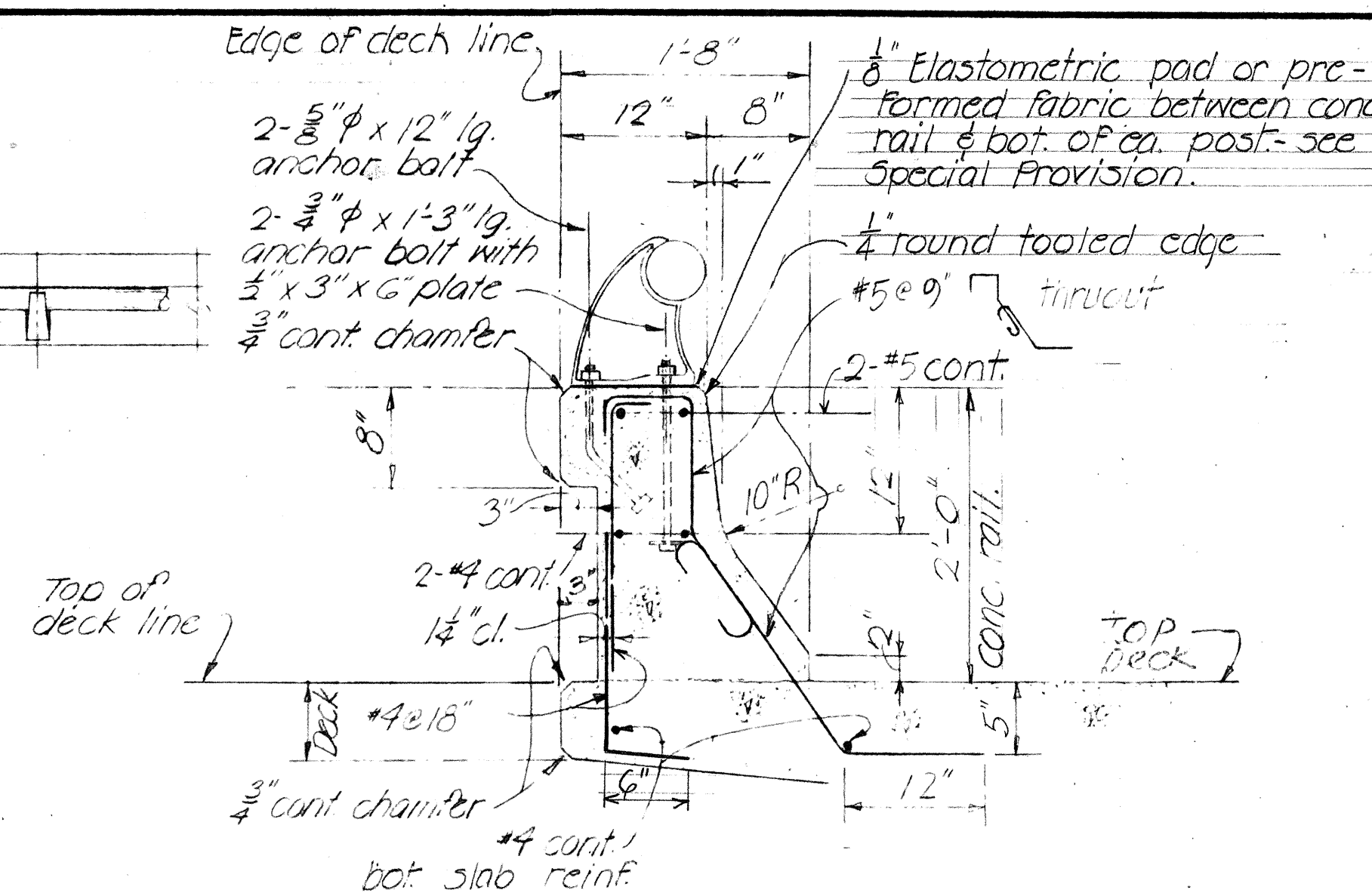
AT DECK EXPANSION JOINT

Locate conc. rail.
joint as shown @ 26'-8" o.c.
max. - See Detail & continuous

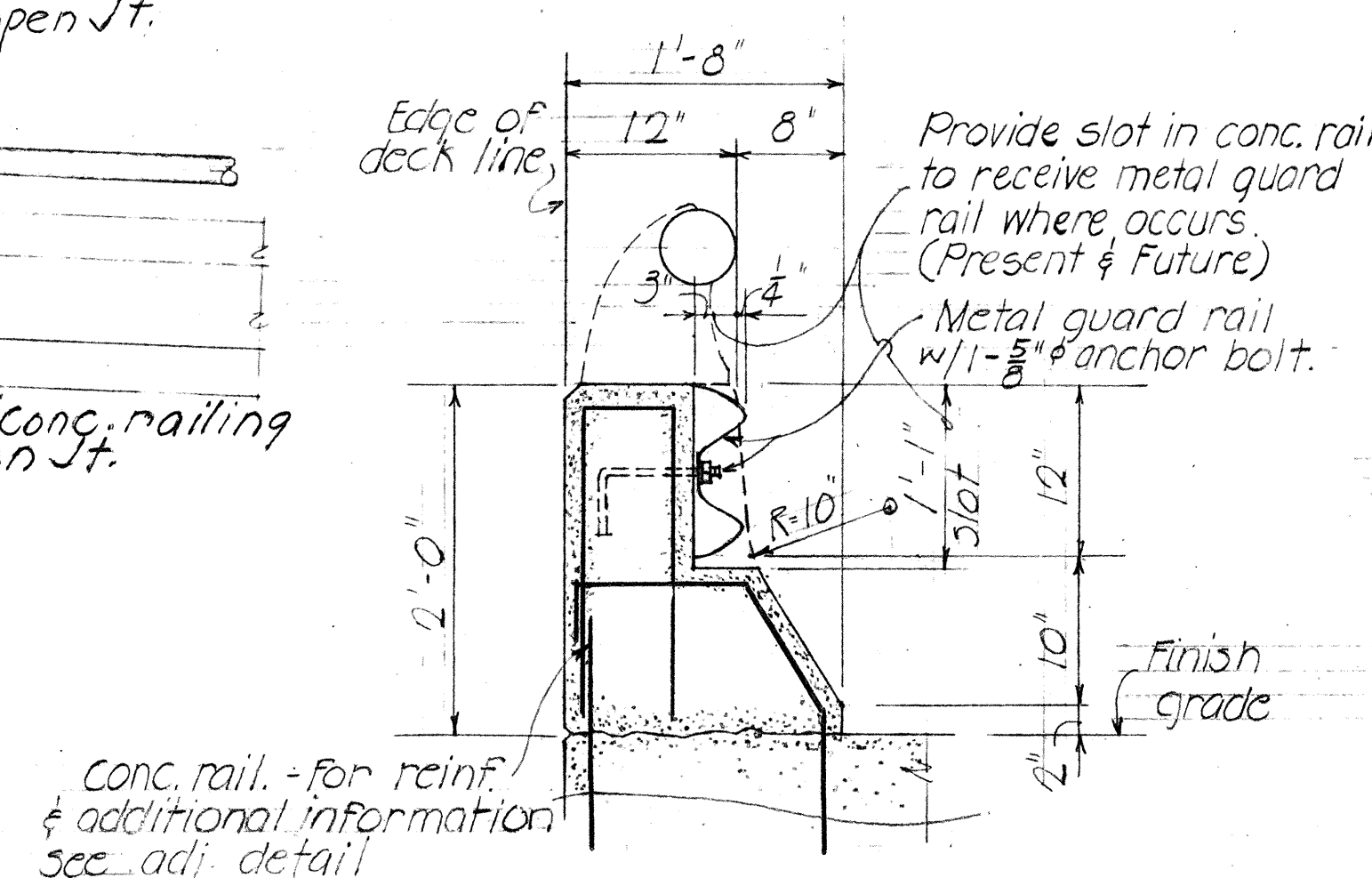
EXTERIOR RAILING ELEVATION Scale: $\frac{3}{8}" = 1'-0"$



ELEVATION $\frac{C}{14}$

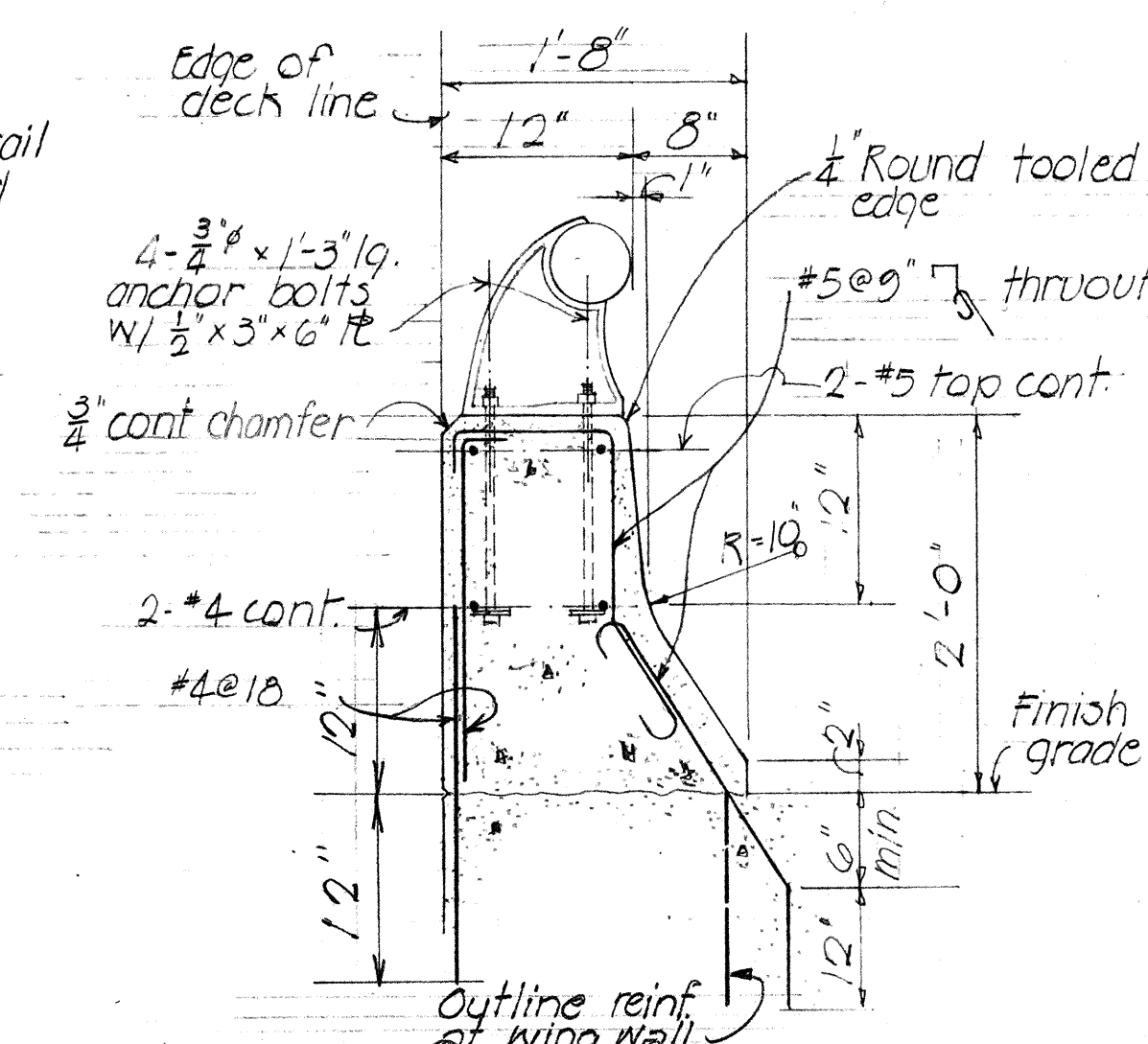


SECTION A
14
Scale: 1"=1'-0"

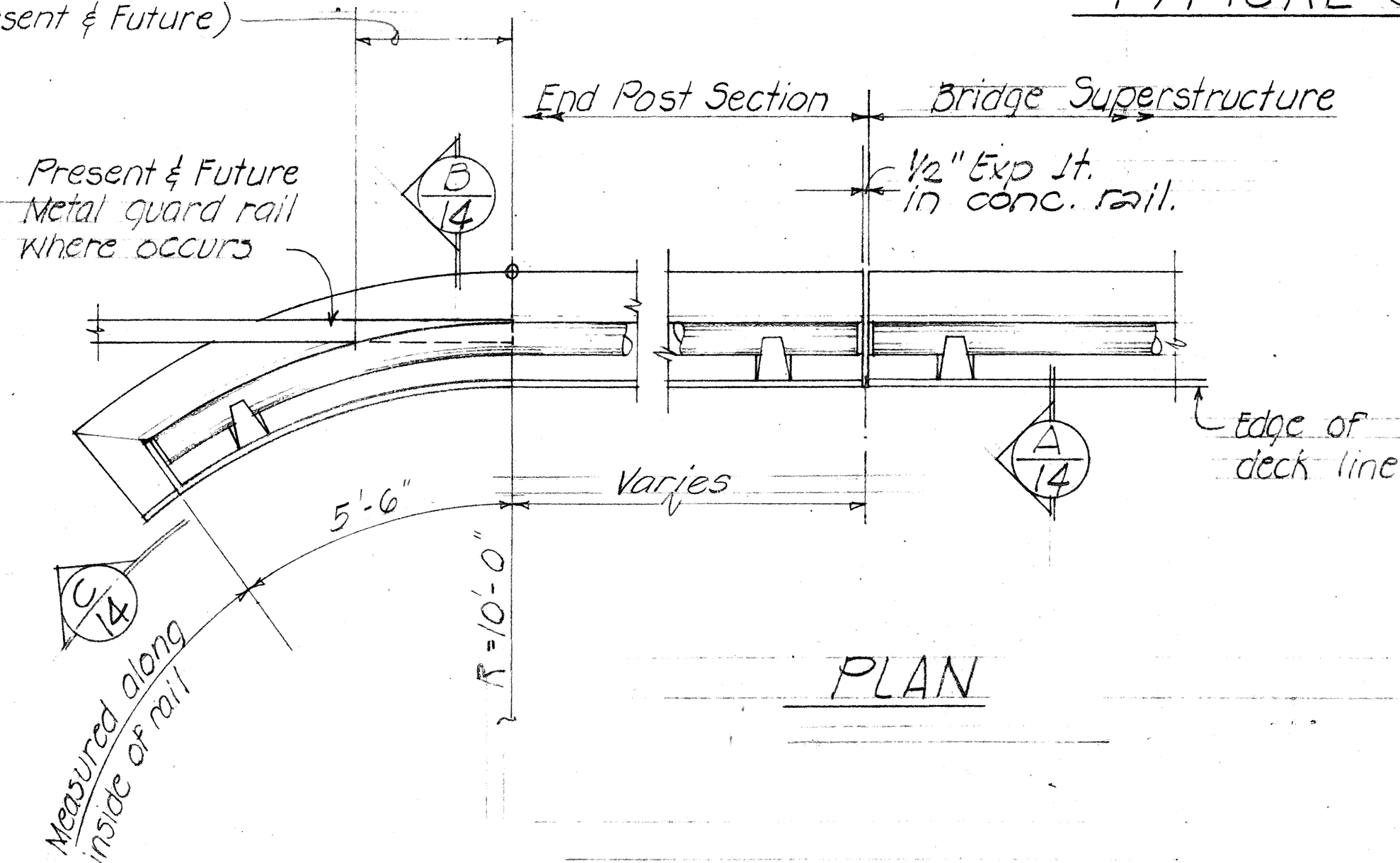
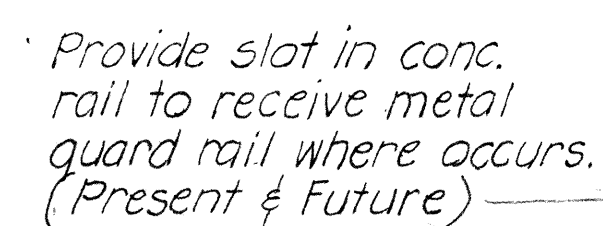


AT METAL GUARD RAIL

TYPICAL SECTION 5
14
scale: 1" = 1'-0"



SHOWING REINFORCEMENT



PLAN

TYPICAL CONCRETE RAILING DETAIL AT END OF BRIDGE Scale: $\frac{1}{2}" = 1'-0"$

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE NO. 451
TYPICAL RAILING DETAILS

INTERSTATE ROUTE H-1
F.A.I. Proj. No. I-41-1(22):5, Unit 3
Date: Dec. 1967

SHEET No. 14 OF 14 SHEETS